



SEQUENCE LISTING

RECEIVED

SEP 10 2002

TECH CENTER 1600/2900

<110> Lindquist, Susan
Queitsch, Christine
Vierling, Elizabeth

<120> Transgenic Plants Containing Heat Shock Protein

<130> P01979US2

<140> US 09/812,350

<141> 2001-03-20

<150> US 60/190,769

<151> 2000-03-20

<150> US 60/198,116

<151> 2000-04-18

<160> 49

<170> PatentIn version 3.1

<210> 1

<211> 883

<212> PRT

<213> Synechococcus

<400> 1

Met Gly Ser Ser Leu Glu Leu Leu Thr Met Gln Pro Thr Asn Pro Asn
1 5 10 15

Gln Phe Thr Glu Lys Ala Trp Glu Ala Ile Val Arg Thr Thr Asp Val
20 25 30

Ala Lys Gln Ala Gln His Gln Gln Ile Glu Ser Glu His Leu Phe Leu
35 40 45

Ala Leu Leu Gln Glu Pro Gly Leu Ala Leu Asn Ile Leu Lys Lys Ala
50 55 60

Gly Leu Glu Ala Ala Gln Leu Gln Gln Phe Thr Glu Arg Phe Ile Ala
65 70 75 80

Arg Gln Pro Lys Val Ser Gly Gly Asn Gln Ser Val Tyr Leu Gly Arg
85 90 95

Ser Leu Asp Gln Leu Leu Asp Gln Ala Asp Gln Phe Arg Lys Asp Phe
100 105 110

Gly Asp Glu Phe Ile Ser Val Glu His Leu Ile Leu Ser Phe Pro Arg
115 120 125

Asp Ser Arg Phe Gly Arg Leu Leu Ser Gln Glu Phe Lys Val Asp Glu
 130 135 140

Lys Gln Leu Arg Gln Ile Ile Gln Gln Ile Arg Gly Ser Gln Lys Val
 145 150 155 160

Thr Asp Gln Asn Pro Glu Gly Lys Tyr Glu Ala Leu Glu Lys Tyr Gly
 165 170 175

Arg Asp Leu Thr Glu Met Ala Arg Arg Gly Lys Leu Asp Pro Val Ile
 180 185 190

Gly Arg Asp Asp Glu Ile Arg Arg Thr Ile Gln Ile Leu Ser Arg Arg
 195 200 205

Thr Lys Asn Asn Pro Val Leu Ile Gly Glu Pro Gly Val Gly Lys Thr
 210 215 220

Ala Ile Ala Glu Gly Leu Ala Gln Arg Ile Ile Asn Gly Asp Val Pro
 225 230 235 240

Gln Ser Leu Lys Asp Arg Arg Leu Ile Ala Leu Asp Met Gly Ala Leu
 245 250 255

Ile Ala Gly Ala Lys Phe Arg Gly Glu Phe Glu Glu Arg Leu Thr Ala
 260 265 270

Val Leu Lys Glu Val Thr Asp Ser Glu Gly Ile Ile Ile Leu Phe Ile
 275 280 285

Asp Glu Met His Thr Val Val Gly Ala Gly Ala Val Gln Gly Ser Met
 290 295 300

Asp Ala Gly Asn Leu Leu Lys Thr Met Leu Ala Arg Gly Glu Leu Arg
 305 310 315 320

Cys Ile Gly Ala Thr Thr Leu Gly Lys Tyr Arg Gln Tyr Ile Glu Lys
 325 330 335

Asp Ala Ala Leu Glu Arg Arg Phe Gln Gln Val Phe Val Asp Gln Pro
 340 345 350

Thr Val Glu Asp Thr Ile Ser Ile Leu Arg Gly Leu Lys Glu Arg Tyr
 355 360 365

Glu Val His His Gly Val Arg Ile Ser Asp Asn Ala Leu Val Ala Ala
 370 375 380

Ala Val Leu Ser Thr Arg Tyr Ile Ser Asp Arg Phe Leu Pro Asp Lys
 385 390 395 400

Ala Ile Asp Leu Val Asp Glu Ser Ala Ala Arg Leu Lys Met Glu Ile
 405 410 415

Thr Ser Lys Pro Glu Glu Leu Asp Glu Ile Asp Arg Lys Ile Leu Gln
 420 425 430

Leu Glu Met Glu Arg Leu Ser Leu Gln Lys Glu Ser Asp Leu Ala Ser
 435 440 445

Gln Glu Arg Leu Gln Arg Leu Glu Lys Glu Leu Ala Asp Leu Lys Glu
 450 455 460

Glu Gln Arg Ser Leu Ser Ser Gln Trp Gln Ala Glu Lys Asp Val Ile
 465 470 475 480

Thr Asp Ile Gln Ser Val Lys Glu Glu Ile Asp Gln Val Asn Leu Leu
 485 490 495

Ile Gln Gln Ala Glu Arg Asp Tyr Asp Leu Asn Lys Ala Ala Glu Leu
 500 505 510

Lys Tyr Gly Lys Leu Thr Glu Leu Gln Arg Lys Leu Asn Glu Met Glu
 515 520 525

Gly Gly Leu Ala Thr Thr His Thr Ser Gly Lys Ser Leu Leu Arg Glu
 530 535 540

Glu Val Thr Glu Val Asp Ile Ala Glu Ile Ile Ser Lys Trp Thr Gly
 545 550 555 560

Ile Pro Val Ser Lys Leu Val Glu Ser Glu Met Gln Lys Leu Leu Asn
 565 570 575

Leu Asp Glu Glu Leu His Gln Arg Val Ile Gly Gln Glu Glu Ala Val
 580 585 590

Ser Ala Val Ala Asp Ala Ile Gln Arg Ser Arg Ala Gly Leu Ser Asp
 595 600 605

Pro Lys Arg Pro Ile Ala Ser Phe Ile Phe Leu Gly Pro Thr Gly Val

610

615

620

Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Ala Tyr Leu Phe Asp Thr
 625 630 635 640

Glu Asp Ala Met Ile Arg Ile Asp Met Ser Glu Tyr Met Glu Lys His
 645 650 655

Ala Val Ser Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly Tyr Asp
 660 665 670

Glu Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Arg Pro Tyr Ser Val
 675 680 685

Ile Leu Phe Asp Glu Ile Glu Lys Ala His Pro Asp Val Phe Asn Val
 690 695 700

Met Leu Gln Ile Leu Asp Asp Gly Arg Val Thr Asp Ser Arg Gly Arg
 705 710 715 720

Thr Val Asp Phe Lys Asn Thr Ile Leu Ile Leu Thr Ser Asn Ile Gly
 725 730 735

Ser Gln Tyr Ile Leu Asp Val Ala Gly Asp Asp Ser Arg Tyr Glu Glu
 740 745 750

Met Arg Ser Arg Val Thr Glu Ala Leu Arg Ala Asn Phe Arg Pro Glu
 755 760 765

Phe Leu Asn Arg Val Asp Glu Thr Ile Ile Phe His Ser Leu Arg Lys
 770 775 780

Asp Gln Leu Gln Gln Ile Val Arg Ile Gln Leu His Arg Leu Glu Glu
 785 790 795 800

Arg Leu Ser Asp Arg Lys Leu Ser Leu Ser Met Ser Pro Glu Ala Ile
 805 810 815

Asp Phe Leu Val Glu Ile Gly Phe Asp Pro Val Tyr Gly Ala Arg Pro
 820 825 830

Leu Lys Arg Val Ile Gln Arg Glu Leu Glu Thr Ala Ile Ala Lys Ala
 835 840 845

Ile Leu Arg Gly Gln Phe Ser Asp Gly Asp Thr Ile Gln Val Ala Val
 850 855 860

Glu Asn Glu Arg Leu Val Phe Lys Ala Ile Ala Thr Pro Thr Ala Val
 865 870 875 880

Pro Leu Ser

<210> 2
 <211> 856
 <212> PRT
 <213> Helicobacter pylori

<400> 2

Met Asn Leu Phe Glu Lys Met Thr Asp Gln Leu His Glu Ala Leu Asp
 1 5 10 15

Ser Ala Leu Ala Leu Ala Leu His His Lys Asn Ala Glu Val Thr Pro
 20 25 30

Leu His Met Leu Phe Ala Met Leu Asn Asn Ser Gln Gly Ile Leu Ile
 35 40 45

Gln Ala Leu Gln Lys Met Pro Val Asp Ile Glu Ala Leu Lys Leu Ser
 50 55 60

Val Gln Ser Glu Leu Asn Lys Phe Ala Lys Val Ser Gln Ile Asn Lys
 65 70 75 80

Gln Asn Ile Gln Leu Asn Gln Ala Leu Ile Gln Ser Leu Glu Asn Ala
 85 90 95

Gln Gly Leu Met Ala Lys Thr Gly Asp Ser Phe Ile Ala Thr Asp Val
 100 105 110

Tyr Leu Leu Ala Asn Met Ser Leu Phe Glu Ser Val Leu Lys Pro Tyr
 115 120 125

Leu Asp Thr Lys Glu Leu Gln Lys Thr Leu Glu Ser Leu Arg Lys Gly
 130 135 140

Ala Thr Ile Gln Gly Lys Asn Asp Asp Ser Asn Leu Glu Ser Leu Glu
 145 150 155 160

Lys Phe Gly Ile Asp Leu Thr Gln Lys Ala Leu Glu Asn Lys Leu Asp
 165 170 175

Pro Val Ile Gly Arg Asp Glu Glu Ile Ile Arg Met Met Gln Ile Leu
180 185 190

Ile Arg Lys Thr Lys Asn Asn Pro Ile Leu Leu Gly Glu Pro Gly Val
195 200 205

Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln Arg Ile Val Asn Lys
210 215 220

Glu Val Pro Lys Thr Leu Leu Asn Lys Arg Val Ile Ala Leu Asp Leu
225 230 235 240

Ser Leu Leu Val Ala Gly Ala Lys Tyr Arg Gly Glu Phe Glu Glu Arg
245 250 255

Leu Lys Lys Val Ile Glu Glu Val Lys Lys Ser Ala Asn Val Ile Leu
260 265 270

Phe Ile Asp Glu Ile His Thr Ile Val Gly Ala Gly Ala Ser Glu Gly
275 280 285

Gly Met Asp Ala Ala Asn Ile Leu Lys Pro Ala Leu Ala Arg Gly Glu
290 295 300

Leu His Thr Ile Gly Ala Thr Thr Leu Lys Glu Tyr Arg Lys Tyr Phe
305 310 315 320

Glu Lys Asp Met Ala Leu Gln Arg Arg Phe Gln Pro Ile Leu Leu Asn
325 330 335

Glu Pro Ser Ile Asn Glu Ala Leu Gln Ile Leu Arg Gly Leu Lys Glu
340 345 350

Thr Leu Glu Thr His His Asn Ile Thr Ile Asn Asp Ser Ala Leu Ile
355 360 365

Ala Ser Ala Lys Leu Ser Ser Arg Tyr Ile Thr Asp Arg Phe Leu Pro
370 375 380

Asp Lys Ala Ile Asp Leu Ile Asp Glu Gly Ala Ala Gln Leu Lys Met
385 390 395 400

Gln Met Glu Ser Glu Pro Ala Lys Leu Ser Ser Val Lys Arg Ser Ile
405 410 415

Gln Arg Leu Glu Met Glu Lys Gln Ala Leu Glu Met Glu Lys Lys Glu

420

425

430

Ser Asn His Lys Arg Met Gln Glu Ile Leu Lys Glu Leu Ser Asp Leu
 435 440 445

Lys Glu Glu Lys Ile Gln Leu Glu Ala Gln Phe Glu Asn Glu Lys Glu
 450 455 460

Ala Phe Lys Glu Ile Ser Arg Leu Lys Met Glu Met Glu Ser Leu Lys
 465 470 475 480

Lys Glu Ala Glu Arg Phe Lys Arg Asn Gly Asp Tyr Gln Gln Ala Gly
 485 490 495

Glu Ile Glu Tyr Ser Lys Ile Pro Glu Asn Lys Lys Lys Glu Glu Glu
 500 505 510

Leu Gln Arg Lys Trp Glu Ala Met Gln Gln Asn Gly Ala Leu Leu Gln
 515 520 525

Asn Ala Leu Thr Glu Asn Asn Ile Ala Glu Ile Val Ser Gln Trp Thr
 530 535 540

His Ile Pro Val Gln Lys Met Leu Gln Ser Glu Lys Asn Arg Val Leu
 545 550 555 560

Asn Ile Glu Ser Glu Leu Gln Lys Arg Val Val Gly Gln Glu Lys Ala
 565 570 575

Ile Lys Ala Ile Ala Lys Ala Ile Lys Arg Asn Lys Ala Gly Leu Ser
 580 585 590

Asp Ser Asn Lys Pro Ile Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly
 595 600 605

Val Gly Lys Thr Glu Ser Ala Lys Ala Leu Ala Gln Phe Leu Phe Asp
 610 615 620

Ser Asp Lys Asn Leu Ile Arg Ile Asp Met Ser Glu Tyr Leu Glu Lys
 625 630 635 640

His Ala Ile Thr Arg Leu Ile Gly Pro Ala Pro Gly Tyr Val Gly Tyr
 645 650 655

Glu Glu Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Lys Pro Tyr Ser
 660 665 670

Val Val Leu Leu Asp Glu Val Glu Lys Ala His Pro Asp Val Phe Asn
675 680 685

Leu Leu Leu Gln Val Leu Asp Glu Gly His Leu Thr Asp Ser Lys Gly
690 695 700

Val Arg Val Asp Phe Lys Asn Thr Ile Leu Ile Leu Thr Ser Asn Val
705 710 715 720

Ala Ser Gly Ala Leu Leu Glu Glu Asn Leu Ser Glu Ala Asp Lys Gln
725 730 735

Lys Ala Ile Lys Glu Ser Leu Arg Gln Phe Phe Lys Pro Glu Phe Leu
740 745 750

Asn Arg Leu Asp Glu Ile Ile Ser Phe Asn Ala Leu Gly Ser His Ala
755 760 765

Val Ile Asn Ile Val Gly Ile Leu Phe Glu Asn Ile Gln Lys Lys Ala
770 775 780

Leu Glu Arg Gly Ile Asn Ile Thr Leu Asp Glu Glu Ala Lys Glu Leu
785 790 795 800

Ile Ala Glu Ala Gly Phe Asp Arg Phe Tyr Gly Ala Arg Pro Leu Lys
805 810 815

Arg Ala Leu Tyr Glu Met Val Glu Asp Lys Leu Ala Glu Leu Ile Leu
820 825 830

Glu Asp Lys Ile Lys Glu Asn Gly Ser Val Ala Phe Val Val Glu Asn
835 840 845

Asn Glu Ile Val Pro Lys Ile Lys
850 855

<210> 3
<211> 945
<212> PRT
<213> Arabidopsis thaliana

<400> 3

Met Glu Val Leu Ser Thr Ser Ser Pro Leu Thr Leu His Ser His Arg
1 5 10 15

Leu Leu Ser Ala Ser Ser Ser Ser Ser His Val Thr Ser Ile Ala Ala
 20 25 30

Ser Ser Leu Ser Ser Phe Ala Ser Ser Tyr Leu Gly Ile Ser Leu Ser
 35 40 45

Asn Arg Thr Ile His Arg Phe Ser Thr Thr Pro Thr Asn Leu Arg Arg
 50 55 60

Phe Pro Gln Arg Lys Arg Lys Lys Phe Thr Pro Ile Ser Ala Val Phe
 65 70 75 80

Glu Arg Phe Thr Glu Arg Ala Ile Arg Ala Ile Ile Phe Ser Gln Lys
 85 90 95

Glu Ala Lys Ser Leu Gly Lys Asp Met Val Tyr Thr Gln His Leu Leu
 100 105 110

Leu Gly Leu Ile Ala Glu Asp Arg Asp Pro Gln Gly Phe Leu Gly Ser
 115 120 125

Gly Ile Thr Ile Asp Lys Ala Arg Glu Ala Val Trp Ser Ile Trp Asp
 130 135 140

Glu Ala Asn Ser Asp Ser Lys Gln Glu Glu Ala Ser Ser Thr Ser Tyr
 145 150 155 160

Ser Lys Ser Thr Asp Met Pro Phe Ser Ile Ser Thr Lys Arg Val Phe
 165 170 175

Glu Ala Ala Val Glu Tyr Ser Arg Thr Met Asp Cys Gln Tyr Ile Ala
 180 185 190

Pro Glu His Ile Ala Val Gly Leu Phe Thr Val Asp Asp Gly Ser Ala
 195 200 205

Gly Arg Val Leu Lys Arg Leu Gly Ala Asn Met Asn Leu Leu Thr Ala
 210 215 220

Ala Ala Leu Thr Arg Leu Lys Gly Glu Ile Ala Lys Asp Gly Arg Glu
 225 230 235 240

Pro Ser Ser Ser Ser Lys Gly Ser Phe Glu Ser Pro Pro Ser Gly Arg
 245 250 255

Ile Ala Gly Ser Gly Pro Gly Gly Lys Lys Ala Lys Asn Val Leu Glu

260	265	270
Gln Phe Cys Val Asp Leu Thr Ala Arg Ala Ser Glu Gly Leu Ile Asp 275 280 285		
Pro Val Ile Gly Arg Glu Lys Glu Val Gln Arg Val Ile Gln Ile Leu 290 295 300		
Cys Arg Arg Thr Lys Asn Asn Pro Ile Leu Leu Gly Glu Ala Gly Val 305 310 315 320		
Gly Lys Thr Ala Ile Ala Glu Gly Leu Ala Ile Ser Ile Ala Glu Ala 325 330 335		
Ser Ala Pro Gly Phe Leu Leu Thr Lys Arg Ile Met Ser Leu Asp Ile 340 345 350		
Gly Leu Leu Met Ala Gly Ala Lys Glu Arg Gly Glu Leu Glu Ala Arg 355 360 365		
Val Thr Ala Leu Ile Ser Glu Val Lys Lys Ser Gly Lys Val Ile Leu 370 375 380		
Phe Ile Asp Glu Val His Thr Leu Ile Gly Ser Gly Thr Val Gly Arg 385 390 395 400		
Gly Asn Lys Gly Ser Gly Leu Asp Ile Ala Asn Leu Leu Lys Pro Ser 405 410 415		
Leu Gly Arg Gly Glu Leu Gln Cys Ile Ala Ser Thr Thr Leu Asp Glu 420 425 430		
Phe Arg Ser Gln Phe Glu Lys Asp Lys Ala Leu Ala Arg Arg Phe Gln 435 440 445		
Pro Val Leu Ile Asn Glu Pro Ser Glu Glu Asp Ala Val Lys Ile Leu 450 455 460		
Leu Gly Leu Arg Glu Lys Tyr Glu Ala His His Asn Cys Lys Tyr Thr 465 470 475 480		
Met Glu Ala Ile Asp Ala Ala Val Tyr Leu Ser Ser Arg Tyr Ile Ala 485 490 495		
Asp Arg Phe Leu Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Gly 500 505 510		

Ser Arg Ala Arg Ile Glu Ala Phe Arg Lys Lys Lys Glu Asp Ala Ile
515 520 525

Cys Ile Leu Ser Lys Pro Pro Asn Asp Tyr Trp Gln Glu Ile Lys Thr
530 535 540

Val Gln Ala Met His Glu Val Val Leu Ser Ser Arg Gln Lys Gln Asp
545 550 555 560

Asp Gly Asp Ala Ile Ser Asp Glu Ser Gly Glu Leu Val Glu Glu Ser
565 570 575

Ser Leu Pro Pro Ala Ala Gly Asp Asp Glu Pro Ile Leu Val Gly Pro
580 585 590

Asp Asp Ile Ala Ala Val Ala Ser Val Trp Ser Gly Ile Pro Val Gln
595 600 605

Gln Ile Thr Ala Asp Glu Arg Met Leu Leu Met Ser Leu Glu Asp Gln
610 615 620

Leu Arg Gly Arg Val Val Gly Gln Asp Glu Ala Val Ala Ala Ile Ser
625 630 635 640

Arg Ala Val Lys Arg Ser Arg Val Gly Leu Lys Asp Pro Asp Arg Pro
645 650 655

Ile Ala Ala Met Leu Phe Cys Gly Pro Thr Gly Val Gly Lys Thr Glu
660 665 670

Leu Thr Lys Ala Leu Ala Ala Asn Tyr Phe Gly Ser Glu Glu Ser Met
675 680 685

Leu Arg Leu Asp Met Ser Glu Tyr Met Glu Arg His Thr Val Ser Lys
690 695 700

Leu Ile Gly Ser Pro Pro Gly Tyr Val Gly Phe Glu Glu Gly Gly Met
705 710 715 720

Leu Thr Glu Ala Ile Arg Arg Arg Pro Phe Thr Val Val Leu Phe Asp
725 730 735

Glu Ile Glu Lys Ala His Pro Asp Ile Phe Asn Ile Leu Leu Gln Leu
740 745 750

Phe Glu Asp Gly His Leu Thr Asp Ser Gln Gly Arg Arg Val Ser Phe
755 760 765

Lys Asn Ala Leu Ile Ile Met Thr Ser Asn Val Gly Ser Leu Ala Ile
770 775 780

Ala Lys Gly Arg His Gly Ser Ile Gly Phe Ile Leu Asp Asp Asp Glu
785 790 795 800

Glu Ala Ala Ser Tyr Thr Gly Met Lys Ala Leu Val Val Glu Glu Leu
805 810 815

Lys Asn Tyr Phe Arg Pro Glu Leu Leu Asn Arg Ile Asp Glu Ile Val
820 825 830

Ile Phe Arg Gln Leu Glu Lys Ala Gln Met Met Glu Ile Leu Asn Leu
835 840 845

Met Leu Gln Asp Leu Lys Ser Arg Leu Val Ala Leu Gly Val Gly Leu
850 855 860

Glu Val Ser Glu Pro Val Lys Glu Leu Ile Cys Lys Gln Gly Tyr Asp
865 870 875 880

Pro Ala Tyr Gly Ala Arg Pro Leu Arg Arg Thr Val Thr Glu Ile Val
885 890 895

Glu Asp Pro Leu Ser Glu Ala Phe Leu Ala Gly Ser Phe Lys Pro Gly
900 905 910

Asp Thr Ala Phe Val Val Leu Asp Asp Thr Gly Asn Pro Ser Val Arg
915 920 925

Thr Lys Pro Asp Ser Ser Thr Ile Arg Val Thr Asp Lys Thr Ser Ile
930 935 940

Ala
945

<210> 4
<211> 594
<212> PRT
<213> Escherichia coli

<400> 4

Met Arg Leu Asp Arg Leu Thr Asn Lys Phe Gln Leu Ala Leu Ala Asp

1	5	10	15
Ala Gln Ser Leu Ala Leu Gly His Asp Asn Gln Phe Ile Glu Pro Leu	20	25	30
His Leu Met Ser Ala Leu Leu Asn Gln Glu Gly Gly Ser Val Ser Pro	35	40	45
Leu Leu Thr Ser Ala Gly Ile Asn Ala Gly Gln Leu Arg Thr Asp Ile	50	55	60
Asn Gln Ala Leu Asn Arg Leu Pro Gln Val Glu Gly Thr Gly Gly Asp	65	70	75
Val Gln Pro Ser Gln Asp Leu Val Arg Val Leu Asn Leu Cys Asp Lys	85	90	95
Leu Ala Gln Lys Arg Gly Asp Asn Phe Ile Ser Ser Glu Leu Phe Val	100	105	110
Leu Ala Ala Leu Glu Ser Arg Gly Thr Leu Ala Asp Ile Leu Lys Ala	115	120	125
Ala Gly Ala Thr Thr Ala Asn Ile Thr Gln Ala Ile Glu Gln Met Arg	130	135	140
Gly Gly Glu Ser Val Asn Asp Gln Gly Ala Glu Asp Gln Arg Gln Ala	145	150	155
Leu Lys Lys Tyr Thr Ile Asp Leu Thr Glu Arg Ala Glu Gln Gly Lys	165	170	175
Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg Thr Ile Gln	180	185	190
Val Leu Gln Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu Pro	195	200	205
Gly Val Gly Lys Thr Ala Ile Val Glu Gly Leu Ala Gln Arg Ile Ile	210	215	220
Asn Gly Glu Val Pro Glu Gly Leu Lys Gly Arg Arg Val Leu Ala Leu	225	230	235
Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly Glu Phe Glu	245	250	255

Glu Arg Leu Lys Gly Val Leu Asn Asp Leu Ala Lys Gln Glu Gly Asn
 260 265 270

Val Ile Leu Phe Ile Asp Glu Leu His Thr Met Val Gly Ala Gly Lys
 275 280 285

Ala Asp Gly Ala Met Asp Ala Gly Asn Met Leu Lys Pro Ala Leu Ala
 290 295 300

Arg Gly Glu Leu His Cys Val Gly Ala Thr Thr Leu Asp Glu Tyr Arg
 305 310 315 320

Gln Tyr Ile Glu Lys Asp Ala Ala Leu Glu Arg Arg Phe Gln Lys Val
 325 330 335

Phe Val Ala Glu Pro Ser Val Glu Asp Thr Ile Ala Ile Leu Arg Gly
 340 345 350

Leu Lys Glu Arg Tyr Glu Leu His His His Val Gln Ile Thr Asp Pro
 355 360 365

Ala Ile Val Ala Ala Ala Thr Leu Ser His Arg Tyr Ile Ala Asp Arg
 370 375 380

Gln Leu Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Ala Ser Ser
 385 390 395 400

Ile Arg Met Gln Ile Asp Ser Lys Pro Glu Glu Leu Asp Arg Leu Asp
 405 410 415

Arg Arg Ile Ile Gln Leu Lys Leu Glu Gln Gln Ala Leu Met Lys Glu
 420 425 430

Ser Asp Glu Ala Ser Lys Lys Arg Leu Asp Met Leu Asn Glu Glu Leu
 435 440 445

Ser Asp Lys Glu Arg Gln Tyr Ser Glu Leu Glu Glu Glu Trp Lys Ala
 450 455 460

Glu Lys Ala Ser Leu Ser Gly Thr Gln Thr Ile Lys Ala Glu Leu Glu
 465 470 475 480

Gln Ala Lys Ile Ala Ile Glu Gln Ala Arg Arg Val Gly Asp Leu Ala
 485 490 495

Arg Met Ser Glu Leu Gln Tyr Gly Lys Ile Pro Glu Leu Glu Lys Gln
 500 505 510

Leu Glu Ala Ala Thr Gln Leu Glu Gly Lys Thr Met Arg Leu Leu Arg
 515 520 525

Asn Lys Val Thr Asp Ala Glu Ile Ala Glu Val Leu Ala Arg Trp Thr
 530 535 540

Gly Ile Pro Val Ser Arg Met Met Glu Ser Glu Arg Glu Lys Leu Leu
 545 550 555 560

Arg Met Glu Gln Glu Leu His His Arg Val Ile Gly Gln Asn Glu Ala
 565 570 575

Val Asp Ala Val Ser Asn Ala Ile Arg Arg Ser Arg Ala Gly Leu Ala
 580 585 590

Asp Pro

<210> 5
 <211> 177
 <212> PRT
 <213> Bacillus subtilis

<400> 5

Gly Val Gly Lys Thr Ala Ile Ala Glu Gly Leu Ala Gln Gln Ile Ile
 1 5 10 15

Asn Asn Glu Val Pro Glu Ile Leu Arg Asp Lys Arg Val Met Thr Leu
 20 25 30

Asp Met Gly Thr Val Val Ala Gly Thr Lys Tyr Arg Gly Glu Phe Glu
 35 40 45

Asp Arg Leu Lys Lys Val Met Asp Glu Ile Arg Gln Ala Gly Asn Ile
 50 55 60

Ile Leu Phe Ile Asp Glu Leu His Thr Leu Ile Gly Ala Gly Gly Ala
 65 70 75 80

Glu Gly Ala Ile Asp Ala Ser Asn Ile Leu Lys Pro Ser Leu Ala Arg
 85 90 95

Gly Glu Leu Gln Cys Ile Gly Ala Thr Thr Leu Asp Glu Tyr Arg Lys

100 105 110
 Tyr Ile Glu Lys Asp Ala Ala Leu Glu Arg Arg Phe Gln Pro Ile Gln
 115 120 125
 Val Asp Gln Pro Ser Val Asp Glu Ser Ile Gln Ile Leu Gln Gly Leu
 130 135 140
 Arg Asp Arg Tyr Glu Ala His His Arg Val Ser Ile Thr Asp Asp Ala
 145 150 155 160
 Ile Glu Ala Ala Val Lys Leu Ser Asp Arg Tyr Ile Ser Asp Arg Phe
 165 170 175

Leu

<210> 6
 <211> 852
 <212> PRT
 <213> Corynebacterium glutamicum

<400> 6

Met Ser Ser Phe Asn Pro Thr Thr Lys Thr Asn Glu Ala Met Gln Ala
 1 5 10 15
 Ala Leu Gln Gln Ala Ser Ser Ala Gly Asn Pro Asp Ile Arg Pro Ala
 20 25 30
 His Leu Leu Ala Ala Ile Leu Glu Gln Thr Asp Gly Val Ala Ala Pro
 35 40 45
 Val Leu Met Ala Thr Gly Val Asp Pro Lys Glu Ile Leu Ala Glu Ala
 50 55 60
 Lys Lys Leu Val Ala Ser Tyr Pro Lys Ala Ser Gly Ala Asn Met Ala
 65 70 75 80
 Asn Pro Asn Phe Asn Arg Asp Ala Leu Asn Ala Phe Thr Ala Ala Gln
 85 90 95
 Glu Leu Ala Gly Glu Leu Gly Asp Glu Tyr Val Ser Thr Glu Val Leu
 100 105 110
 Leu Ala Gly Ile Ala Arg Gly Lys Ser Asp Ala Ala Asp Leu Leu Thr
 115 120 125

Asn Lys Gly Ala Thr Tyr Asp Ala Ile Lys Glu Ala Phe Pro Ser Val
 130 135 140

Arg Gly Ser Gln Arg Val Thr Thr Gln Asp Pro Glu Gly Gln Phe Gln
 145 150 155 160

Ala Leu Glu Lys Tyr Ser Thr Asp Leu Thr Lys Leu Ala Arg Glu Gly
 165 170 175

Lys Ile Asp Pro Val Ile Gly Arg Asp Gln Glu Ile Arg Arg Val Val
 180 185 190

Gln Val Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu
 195 200 205

Pro Gly Val Gly Lys Thr Ala Ile Val Glu Gly Leu Ala Arg Arg Ile
 210 215 220

Val Ala Gly Asp Val Pro Glu Ser Leu Lys Gly Lys Thr Leu Ile Ser
 225 230 235 240

Leu Asp Leu Gly Ser Met Val Ala Gly Ala Lys Tyr Arg Gly Glu Phe
 245 250 255

Glu Glu Arg Leu Lys Ala Val Leu Asp Glu Ile Lys Gly Ala Asn Gly
 260 265 270

Glu Val Val Thr Phe Ile Asp Glu Leu His Thr Ile Val Gly Ala Gly
 275 280 285

Ala Ser Gly Glu Ser Ala Met Asp Ala Gly Asn Met Ile Lys Pro Leu
 290 295 300

Leu Ala Arg Gly Glu Leu Arg Leu Val Gly Ala Thr Thr Leu Asn Glu
 305 310 315 320

Tyr Arg Lys Tyr Ile Glu Lys Asp Ala Ala Leu Glu Arg Arg Phe Gln
 325 330 335

Gln Val Tyr Val Gly Glu Pro Thr Val Glu Asp Ala Ile Gly Ile Leu
 340 345 350

Arg Gly Leu Lys Glu Arg Tyr Glu Val His His Gly Val Arg Ile Gln
 355 360 365

Asp Ser Ala Leu Val Ala Ala Ala Glu Leu Ser Asn Arg Tyr Ile Thr
 370 375 380

Ser Arg Phe Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala Ala
 385 390 395 400

Ser Arg Leu Arg Met Glu Ile Asp Ser Ser Pro Gln Glu Ile Asp Glu
 405 410 415

Leu Glu Arg Ile Val Arg Arg Leu Glu Ile Glu Glu Met Ala Leu Ser
 420 425 430

Lys Glu Ser Asp Ala Ala Ser Lys Glu Arg Leu Glu Lys Leu Arg Ser
 435 440 445

Glu Leu Ala Asp Glu Arg Glu Lys Leu Ser Glu Leu Lys Ala Arg Trp
 450 455 460

Gln Asn Glu Lys Thr Ala Ile Asp Asp Val Arg Glu Met Lys Glu Glu
 465 470 475 480

Leu Glu Ala Leu Arg Ser Glu Ser Asp Ile Ala Glu Arg Asp Gly Asn
 485 490 495

Tyr Gly Arg Val Ala Glu Leu Arg Tyr Gly Arg Ile Pro Glu Leu Glu
 500 505 510

Lys Gln Ile Glu Asp Ala Glu Ser Lys Val Glu Val Asn Glu Asn Ala
 515 520 525

Met Leu Thr Glu Glu Val Thr Pro Asp Thr Ile Ala Asp Val Val Ser
 530 535 540

Ala Trp Thr Gly Ile Pro Ala Gly Lys Met Met Gln Gly Glu Thr Glu
 545 550 555 560

Lys Leu Leu Asn Met Glu Arg Val Leu Gly Asn Arg Val Val Gly Gln
 565 570 575

Leu Glu Ala Val Thr Ala Val Ser Asp Ala Val Arg Arg Ser Arg Ala
 580 585 590

Gly Val Ala Asp Pro Asn Arg Pro Thr Gly Ser Phe Leu Phe Leu Gly
 595 600 605

Pro Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Val Ala Glu Phe

610	615	620
Leu Phe Asp Asp Asp Arg Ala Met Ile Arg Ile Asp Met Ser Glu Tyr 625 630 635 640		
Gly Glu Lys His Ser Val Ala Arg Leu Val Gly Ala Pro Pro Gly Tyr 645 650 655		
Val Gly Tyr Asp Gln Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Arg 660 665 670		
Pro Tyr Thr Val Val Leu Phe Asp Glu Val Glu Lys Ala His Pro Asp 675 680 685		
Val Phe Asp Ile Leu Leu Gln Val Leu Asp Glu Gly Arg Leu Thr Asp 690 695 700		
Gly Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Ile Leu Ile Leu Thr 705 710 715 720		
Ser Asn Leu Gly Ala Gly Gly Thr Arg Glu Gln Met Met Asp Ala Val 725 730 735		
Lys Met Ala Phe Lys Pro Glu Phe Val Asn Arg Leu Asp Asp Val Val 740 745 750		
Ile Phe Asp Arg Leu Ser Pro Glu Gln Leu Thr Ser Ile Val Asp Ile 755 760 765		
Gln Ile Lys Gln Leu Thr Asp Arg Leu Ala Gly Arg Arg Leu Asn Leu 770 775 780		
Arg Val Ser Asp Ser Ala Lys Ala Trp Leu Ala Glu Arg Gly Tyr Asp 785 790 795 800		
Pro Ala Tyr Gly Ala Arg Pro Leu Arg Arg Leu Ile Gln Gln Ala Ile 805 810 815		
Gly Asp Thr Leu Ala Lys Glu Leu Leu Ala Gly Asn Val Arg Asp Gly 820 825 830		
Asp Gly Val Leu Val Asp Val Ala Asp Gly Gly Gln Lys Leu Asp Val 835 840 845		
Ser Arg Ala Val 850		

<210> 7
 <211> 908
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 7

Met	Asn	Asp	Gln	Thr	Gln	Phe	Thr	Glu	Arg	Ala	Leu	Thr	Ile	Leu	Thr
1				5					10					15	
Leu	Ala	Gln	Lys	Leu	Ala	Ser	Asp	His	Gln	His	Pro	Gln	Leu	Gln	Pro
			20					25					30		
Ile	His	Ile	Leu	Ala	Ala	Phe	Ile	Glu	Thr	Pro	Glu	Asp	Gly	Ser	Val
		35					40					45			
Pro	Tyr	Leu	Gln	Asn	Leu	Ile	Glu	Lys	Gly	Arg	Tyr	Asp	Tyr	Asp	Leu
	50					55						60			
Phe	Lys	Lys	Val	Val	Asn	Arg	Asn	Leu	Val	Arg	Ile	Pro	Gln	Gln	Gln
65					70					75					80
Pro	Ala	Pro	Ala	Glu	Ile	Thr	Pro	Ser	Tyr	Ala	Leu	Gly	Lys	Val	Leu
				85					90					95	
Gln	Asp	Ala	Ala	Lys	Ile	Gln	Lys	Gln	Gln	Lys	Asp	Ser	Phe	Ile	Ala
			100					105					110		
Gln	Asp	His	Ile	Leu	Phe	Ala	Leu	Phe	Asn	Asp	Ser	Ser	Ile	Gln	Gln
		115					120					125			
Ile	Phe	Lys	Glu	Ala	Gln	Val	Asp	Ile	Glu	Ala	Ile	Lys	Gln	Gln	Ala
		130				135						140			
Leu	Glu	Leu	Arg	Gly	Asn	Thr	Arg	Ile	Asp	Ser	Arg	Gly	Ala	Asp	Thr
145					150					155					160
Asn	Thr	Pro	Leu	Glu	Tyr	Leu	Ser	Lys	Tyr	Ala	Ile	Asp	Met	Thr	Glu
				165					170					175	
Gln	Ala	Arg	Gln	Gly	Lys	Leu	Asp	Pro	Val	Ile	Gly	Arg	Glu	Glu	Glu
			180					185					190		
Ile	Arg	Ser	Thr	Ile	Arg	Val	Leu	Ala	Arg	Arg	Ile	Lys	Ser	Asn	Pro
		195					200					205			

Cys Leu Ile Gly Glu Pro Gly Ile Gly Lys Thr Ala Ile Ile Glu Gly
 210 215 220
 Val Ala Gln Arg Ile Ile Asp Asp Asp Val Pro Thr Ile Leu Gln Gly
 225 230 235 240
 Ala Lys Leu Phe Ser Leu Asp Leu Ala Ala Leu Thr Ala Gly Ala Lys
 245 250 255
 Tyr Lys Gly Asp Phe Glu Glu Arg Phe Lys Gly Val Leu Lys Glu Ile
 260 265 270
 Glu Glu Ser Lys Thr Leu Ile Val Leu Phe Ile Asp Glu Ile His Met
 275 280 285
 Leu Met Gly Asn Gly Lys Asp Asp Ala Ala Asn Ile Leu Lys Pro Ala
 290 295 300
 Leu Ser Arg Gly Gln Leu Lys Val Ile Gly Ala Thr Thr Asn Asn Glu
 305 310 315 320
 Tyr Arg Ser Ile Val Glu Lys Asp Gly Ala Phe Glu Arg Arg Phe Gln
 325 330 335
 Lys Ile Glu Val Ala Glu Pro Ser Val Arg Gln Thr Val Ala Ile Leu
 340 345 350
 Arg Gly Leu Gln Pro Lys Tyr Glu Ile His His Gly Val Arg Ile Leu
 355 360 365
 Asp Ser Ala Leu Val Thr Ala Ala Gln Leu Ala Lys Arg Tyr Leu Pro
 370 375 380
 Tyr Arg Arg Leu Pro Asp Ser Ala Leu Asp Leu Val Asp Ile Ser Cys
 385 390 395 400
 Ala Gly Val Ala Val Ala Arg Asp Ser Lys Pro Glu Glu Leu Asp Ser
 405 410 415
 Lys Glu Arg Gln Leu Gln Leu Ile Gln Val Glu Ile Lys Ala Leu Glu
 420 425 430
 Arg Asp Glu Asp Ala Asp Ser Thr Thr Lys Asp Arg Leu Lys Leu Ala
 435 440 445
 Arg Gln Lys Glu Ala Ser Leu Gln Glu Glu Leu Glu Pro Leu Arg Gln

450	455	460
Arg Tyr Asn Glu Glu Lys His Gly His Glu Glu Leu Thr Gln Ala Lys 465 470 475 480		
Lys Lys Leu Asp Glu Leu Glu Asn Lys Ala Leu Asp Ala Glu Arg Arg 485 490 495		
Tyr Asp Thr Ala Thr Ala Ala Asp Leu Arg Tyr Phe Ala Ile Pro Asp 500 505 510		
Ile Lys Lys Gln Ile Glu Lys Leu Glu Asp Gln Val Ala Glu Glu Glu 515 520 525		
Arg Arg Ala Gly Ala Asn Ser Met Ile Gln Asn Val Val Asp Ser Asp 530 535 540		
Thr Ile Ser Glu Thr Ala Ala Arg Leu Thr Gly Ile Pro Val Lys Lys 545 550 555 560		
Leu Ser Glu Ser Glu Asn Glu Lys Leu Ile His Met Glu Arg Asp Leu 565 570 575		
Ser Ser Glu Val Val Gly Gln Met Asp Ala Ile Lys Ala Val Ser Asn 580 585 590		
Ala Val Arg Leu Ser Arg Ser Gly Leu Ala Asn Pro Arg Gln Pro Ala 595 600 605		
Ser Phe Leu Phe Leu Gly Leu Ser Gly Ser Gly Lys Thr Glu Leu Ala 610 615 620		
Lys Lys Val Ala Gly Phe Leu Phe Asn Asp Glu Asp Met Met Ile Arg 625 630 635 640		
Val Asp Cys Ser Glu Leu Ser Glu Lys Tyr Ala Val Ser Lys Leu Leu 645 650 655		
Gly Thr Thr Ala Gly Tyr Val Gly Tyr Asp Glu Gly Gly Phe Leu Thr 660 665 670		
Asn Gln Leu Gln Tyr Lys Pro Tyr Ser Val Leu Leu Phe Asp Glu Val 675 680 685		
Glu Lys Ala His Pro Asp Val Leu Thr Val Met Leu Gln Met Leu Asp 690 695 700		

Asp Gly Arg Ile Thr Ser Gly Gln Gly Lys Thr Ile Asp Cys Ser Asn
 705 710 715 720
 Cys Ile Val Ile Met Thr Ser Asn Leu Gly Ala Glu Phe Ile Asn Ser
 725 730 735
 Gln Gln Gly Ser Lys Ile Gln Glu Ser Thr Lys Asn Leu Val Met Gly
 740 745 750
 Ala Val Arg Gln His Phe Arg Pro Glu Phe Leu Asn Arg Ile Ser Ser
 755 760 765
 Ile Val Ile Phe Asn Lys Leu Ser Arg Lys Ala Ile His Lys Ile Val
 770 775 780
 Asp Ile Arg Leu Lys Glu Ile Glu Glu Arg Phe Glu Gln Asn Asp Lys
 785 790 795 800
 His Tyr Lys Leu Asn Leu Thr Gln Glu Ala Lys Asp Phe Leu Ala Lys
 805 810 815
 Tyr Gly Tyr Ser Asp Asp Met Gly Ala Arg Pro Leu Asn Arg Leu Ile
 820 825 830
 Gln Asn Glu Ile Leu Asn Lys Leu Ala Leu Arg Ile Leu Lys Asn Glu
 835 840 845
 Ile Lys Asp Lys Glu Thr Val Asn Val Val Leu Lys Lys Gly Lys Ser
 850 855 860
 Arg Asp Glu Asn Val Pro Glu Glu Ala Glu Glu Cys Leu Glu Val Leu
 865 870 875 880
 Pro Asn His Glu Ala Thr Ile Gly Ala Asp Thr Leu Gly Asp Asp Asp
 885 890 895
 Asn Glu Asp Ser Met Glu Ile Asp Asp Asp Leu Asp
 900 905

<210> 8
 <211> 868
 <212> PRT
 <213> Trypanosoma brucei brucei
 <400> 8

Met Ala His Ser Asp Arg Gln Cys Thr Asn Ala Ala Gln Thr Ala Leu
 1 5 10 15
 Ser Asp Ala Val Glu Ser Ala Arg Lys His Asn Asn Gly Phe Val Asp
 20 25 30
 Pro Ala His Leu Ala Leu Val Leu Phe Lys Asn Glu Asp Gly Leu Ala
 35 40 45
 Ser Arg Val Leu Arg Lys Leu Asn Ala Gly Thr Val Leu Glu Pro Leu
 50 55 60
 Ala Ala Arg Val Gly Ala Leu Pro Glu Gln Arg Pro Arg Pro Arg Ser
 65 70 75 80
 Ile Thr Phe Ser Ser Asp Gly Gly Cys Ala Gln His Arg Arg Ala Glu
 85 90 95
 Ala Asn Arg Val Gly Asp Ser Leu Ile Ala Val Asp His Leu Leu Ile
 100 105 110
 Gly Leu Phe Glu Cys Lys Glu Val Glu Ala Ile Met Lys Ala Ala His
 115 120 125
 Ala Ser Lys Lys Ala Val Glu Gly Ala Leu Leu Glu Leu Arg Lys Gly
 130 135 140
 Lys Lys Val Thr Ser Glu Phe Gln Glu Glu Asn Tyr Gln Ala Leu Glu
 145 150 155 160
 Lys Tyr Ala Thr Asp Leu Cys Lys Leu Ala Glu Glu Gly Lys Leu Asp
 165 170 175
 Pro Val Ile Gly Arg Thr Asp Glu Val Leu Arg Thr Ile Arg Val Leu
 180 185 190
 Ser Arg Arg Thr Lys Asn Asn Pro Ile Leu Ile Gly Glu Pro Gly Val
 195 200 205
 Gly Lys Thr Ala Ile Ala Glu Gly Ile Ala Gln Arg Ile Val Arg Gly
 210 215 220
 Asp Val Pro Asp Thr Leu Leu Asn Thr Arg Leu Phe Ser Leu Asp Leu
 225 230 235 240
 Gly Ala Leu Ile Ala Gly Ser Ser Leu Arg Gly Glu Phe Glu Glu Arg

245	250	255
Leu Lys Ser Val	Leu Asn Glu Val Lys Glu Ser Ser Asn Gly Val Ile	
260	265	270
Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly Ala Gly Lys Ser Gly		
275	280	285
Gly Ser Met Asp Ala Ala Asn Leu Leu Lys Pro Met Leu Ala Arg Gly		
290	295	300
Glu Leu Arg Thr Ile Gly Ala Thr Thr Leu Glu Glu Tyr Arg Thr Tyr		
305	310	315
Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Met Pro Val Tyr Val		
325	330	335
Thr Glu Pro Ser Val Glu Glu Cys Ile Ser Ile Leu Arg Gly Leu Lys		
340	345	350
Asp Arg Tyr Glu Ala His His Gly Val Gln Ile Thr Asp Asn Ala Val		
355	360	365
Val Val Ala Ala Gln Leu Ala Asn Arg Tyr Ile Thr Asn Arg Phe Met		
370	375	380
Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Cys Ala Asn Val Arg		
385	390	395
Val Gln Leu Ser Ser Arg Pro Glu Ala Ile Asp Ile Leu Glu Arg Lys		
405	410	415
Lys Arg Gln Leu Glu Ile Glu Ala Lys Ala Leu Glu Arg Asp Lys Glu		
420	425	430
Ala Ala Ser Arg Glu Arg Leu Lys Leu Val Lys Ala Asp Ile Gln Arg		
435	440	445
Val Glu Glu Glu Leu Gln Pro Leu Val Ser Lys Tyr Asn Asp Glu Arg		
450	455	460
Gln Arg Ile Asp Glu Leu Gln Glu Met Gln Ser Arg Leu Asp Glu Lys		
465	470	475
Lys Lys Leu Glu Arg Ala Val Arg Asp Gly Lys Met Asp Leu Ala Ala		
485	490	495

Asp Leu Gln Tyr Asn Val Ile Pro Leu Ile Gln Asp Arg Ile Arg Ser
 500 505 510

Leu Lys Glu Asp Ile Glu Arg Gln Lys Ala Thr Leu Val Gln Glu Lys
 515 520 525

Val Thr Glu Gly Asp Val Ala Ala Val Val Ala Arg Trp Thr Gly Ile
 530 535 540

Pro Val Val Lys Leu Ser Gln Thr Asp Arg Glu Arg Leu Leu Asn Leu
 545 550 555 560

Ser Met His Leu His Arg Arg Val Lys Gly Gln Asp Glu Ala Val Glu
 565 570 575

Arg Val Ala Asp Ala Ile Ile Arg Ala Arg Ala Gly Leu Ser Arg Pro
 580 585 590

Asn Ser Pro Thr Ala Ser Phe Leu Phe Leu Gly Pro Thr Gly Val Gly
 595 600 605

Lys Thr Glu Leu Val Lys Ala Val Ala Ala Glu Leu Phe Asp Asp Glu
 610 615 620

Lys His Met Val Arg Ile Asp Met Ser Glu Tyr Met Glu Gln His Ser
 625 630 635 640

Val Ser Arg Leu Ile Gly Ala Pro Pro Gly Tyr Ile Gly His Asp Glu
 645 650 655

Gly Gly Gln Leu Thr Glu Pro Val Arg Arg Arg Pro His Ala Val Val
 660 665 670

Leu Phe Asp Glu Val Glu Lys Ala His Pro Asn Val Tyr Asn Val Leu
 675 680 685

Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Ser Arg Gly Arg Thr
 690 695 700

Val Asp Phe Ser Asn Thr Ile Ile Val Met Thr Ser Asn Leu Gly Ser
 705 710 715 720

Glu His Leu Leu Asn Pro Glu Glu Thr Asn Glu Ser Tyr Glu Val Leu
 725 730 735

Arg Glu Asn Val Leu Ala Ala Val Arg Ser Tyr Phe Arg Pro Glu Leu
740 745 750

Ile Asn Arg Leu Asp Asp Ile Val Val Phe Arg Arg Leu Arg Thr Glu
755 760 765

Asp Leu Arg Gly Val Val Asp Asn Leu Ile Ala Gly Val Asn Glu Arg
770 775 780

Leu Lys Ser Ser Gly Phe Ser Val Leu Leu Asp Asp Gly Val Lys Asp
785 790 795 800

Phe Ile Leu Glu His Gly His Asp Ala Asn Met Gly Ala Arg Pro Leu
805 810 815

Arg Arg Trp Ile Glu Lys Asn Ile Val Thr Glu Ile Gly Arg Met Leu
820 825 830

Ile Ala Lys Glu Leu Pro Pro Asn Ser Thr Leu Arg Val Ser Leu Pro
835 840 845

Glu Gly Gly Asn Lys Leu Thr Phe Gly Val Lys Arg Gly Leu Thr Ser
850 855 860

Asp Glu Trp Glu
865

<210> 9
<211> 2776
<212> DNA
<213> Synechococcus

<400> 9
gctttttact ggcgattcaa aagacggatt tcgctcgagc actggccgga tctccgatct 60
gggcaagcgg tcgcccctgc ctaaaatggg ttcacgctg gaacttctca ccattgcaacc 120
gacgaatccc aatcaattta ctgaaaaagc ctgggaagcg atcggtcgca caactgatgt 180
tgcgaaacaa gctcagcatc agcaaattga atcagaacat ctgtttttgg ccttgcttca 240
agaaccaggg ctggctctga atatcctcaa gaaagcaggg ttagaagcgg cacaactaca 300
gcagtttaca gagcgggtta ttgcccgcca gccaaagggt agtgggggta atcagtcggt 360
ttatctgggg cgatcgctcg atcaactcct cgatcaggcg gatcagtttc gcaaggactt 420
tggggatgaa tttatttcgg ttgagcacct catcctcagc tttccccgcg attcccgttt 480
tgggcgcttg ctcagtcaag aattcaaggt tgacgagaag cagctccgtc agattattca 540

acagattcga ggcagccaaa aagtgactga tcaaaaccct gaaggtaaat acgaagccct	600
cgaaaaatat gggcgtgacc tgactgaaat ggcgcgctgt ggcaagctcg atcccgtcat	660
tgccgcgat gatgaaatcc gtcgcactat tcagattctc agtcggcgca ccaagaataa	720
tccggtcttg attggcgagc ctggggttgg caaaactgcg atcgcagaag gattagccca	780
gcggtattat aatggtgatg tcccgcgaat cctcaaggat cggcggctga ttgctttgga	840
catgggtgcc ttaattgcag gtgctaaatt ccggggtgag tttgaagaac gcctgacagc	900
agtcctcaag gaagtcactg actctgaagg catcattatc ctctttattg atgagatgca	960
tacggtgggt ggtgctggag cgggtccaagg ctccatggat gctggcaact tactgaagac	1020
gatgctggcg cggggagaat tgcgctgtat tggggcaacc aactaggtg aatatcgcca	1080
atatattgag aaggatgcg ctcttgaacg acgcttcaa caggctcttg tcgatcaacc	1140
tacggtagaa gatacgatct cgattttgcg tggcttaaaa gagcgctatg aagtgcata	1200
tggcgctcgt atttctgaca acgctcttgt cgctgctgct gtccctctga cccgctacat	1260
cagcgatcgc ttcttgccag ataaggcgat tgatttagtc gatgagtcgg cggctcgact	1320
caagatggaa atcacttcaa agccagaaga attagatgag atcgatcgca agattctcca	1380
gctcgaatg gaacgactct ccttgcaaaa agagagtgat ctgacctcac aggaacgtct	1440
gcaacggcta gaaaaagagt tggccgacct aaaagaagag cagcggagt taagcagtca	1500
atggcaagct gaaaaggatg ttattactga tatccaatcc gtcaaggaag agattgatca	1560
ggttaacttg ctaattcaac aggcagagcg agattacgac ctgaacaaag cagctgagct	1620
gaagtacggc aaactgacag aactgcagcg caagctcaac gaaatggagg gcggtttagc	1680
gacgaccac accagtggca agtctctgct gcgcaagaa gtgacagagg ttgacattgc	1740
tgaaatcatc tctaagtga cggggattcc tgtcagcaag ctggttgagt cagagatgca	1800
aaagctctc aatctcgatg aagaactgca tcaacgggtg attggccaag aagaagcgg	1860
ttctgctgc gcggatgcaa ttcagcgatc gcgagctggg ttgtctgac cgaaacgccc	1920
gatcgcgagc ttcattctct tgggccctac aggggttggg aaaaccgagt tggccaaagc	1980
cctagctgcc tatctcttcg aactgaaga cgcgatgatt cgcattgata tgtcggagta	2040
catggagaaa cacgcggttt cgcggtcaat cggcgcgcct ccgggctacg tcggctatga	2100
cgaaggcggc caactcacg aagcggtgcg gcggcgctcc tattccgtca tcctctttga	2160
tgagattgag aaggcccatc cagatgtctt caacgtcatg ttgcagattc tcgatgatgg	2220
tcgagtcacc gatagccgcg gccgaacagt ggacttcaag aatacaatct tgattttgac	2280
cagcaatata ggttcgcaat acattctcga tgtggctggc gatgacagcc gctacgaaga	2340
aatgcggagc cgtgtcaccg aagcactgcg ggctaatttc cgaccggaat ttctgaatcg	2400

ggtcgatgag acaatcatct tccacagcct gcgcaaggat cagttgcagc agattgtgcg	2460
gattcaactg catcgccctg aagaacgatt gagcgatcgc aaattatcgc tgcgatgag	2520
tccagaagcg atcgatttct tggttgagat tggttttgat cccgtctatg gagctcgtcc	2580
gctcaaacga gtcattcagc gagagttgga aactgcgac gctaaggcga tcctcagggg	2640
gcaattcagt gatggcgaca cgattcaagt tgctgtggag aatgaacgac tcgtctttaa	2700
ggcgatcgca actccaactg cggttccctt gagctaatac cccctctaa tttgagcgaa	2760
gtaaaagcct gtaatc	2776

<210> 10
 <211> 3121
 <212> DNA
 <213> Helicobacter pylori

<400> 10	
gcggctctgg cacgactatt ttagagacga acgctttagg gcgttttagc gtgggttag	60
agattgaaaa agaattattga gaggttgtcta aaaagcgtat tttggagagt ttgtcattaa	120
tgtgagcggt ttaaaaacct ttgagggtta aaatagtgtt aaatagtaaa gattttaaaa	180
ctcaaaaagg attgataatg aattttatttg aaaaaatgac tgaccaattg catgaggctt	240
tagacagcgc gctcgcttta gctttacacc ataaaaacgc tgaagtaacg cccttgacac	300
tgctttttgc catgctcaat aactcccaag gcatcctcat tcaagcctta caaaaaatgc	360
ctgtggatat tgaagcttta aaacttagcg ttcaaagcga gctgaataag tttgctaag	420
tttcacaaat caataagcaa aatatccaat taaaccaagc tctaatacaa agtttagaaa	480
acgctcaagg cttgatggct aaaacgggag attctttcat cgctaccgat gtgtatcttt	540
tggcgaacat gagccttttt gaaagcggtt taaagcctta ttagacact aaggaattgc	600
aaaaaacttt agaactctta agaaaaggcg cgactattca aggtaaaaac gatgattcta	660
at ttggaaag tttagaaaaa ttggcattg atttgacgca aaaagcctta gaaaataagc	720
tggatcccgt gatcggaaga gatgaagaaa tcattcgcat gatgcaaatt ttgatcagaa	780
aaacaaaaaa taaccctatt ttactgggag agcctggagt ggggaaaacg gcggttgtgg	840
aagggttagc ccaacgcatt gtgaataagg aagtgcctaa aacgctttta aacaaacgag	900
tcacgccttt agatttaagc ttgttggtgg ctggagcgaa atacagaggc gagtttgaag	960
agcgctgtaa aaaggtgatt gaagaagtta aaaaaagcgc gaatgtgatt ttattcattg	1020
atgaaatcca cacgatcgta ggggctgggg ctagtgaggg gggcatggat gcggctaata	1080
ttttaaacc cgcgctcgct aggggggaat tgcacacgat tggagcgacc accttgaaag	1140
aataccgcaa gtattttgaa aaagacatgg cgctacaaag gcgtttccaa cccattttac	1200

tcaatgagcc tagcatcaat gaagctttac agattttaag ggggttaaaa gaaactttag	1260
aaacgcacca taatatcacc atcaatgact ccgcgctcat agcgagcgct aaactctcta	1320
gccgttatat caccgataggt tttttaccgc ataaagcgat tgatttgatt gatgaggggg	1380
cggctcaatt aaaaatgcaa atggaatcag agccggccaa actctctagc gtgaagcgct	1440
ccattcaaag actggaaatg gaaaaacaag cccttgaaat ggaaaaaaag gaaagcaacc	1500
ataaacgcat gcaagaaatc cttaaagaat tgagcgattt gaaagaagaa aaaatccaat	1560
tagaagcgca atttgaaaac gaaaaagaag cgttcaaaga aatttcacgc ttgaaaatgg	1620
aaatggaaag cttgaaaaaa gaggctgaga ggtttaagcg caatggggat taccagcaag	1680
cgggtgaaat tgaatactct aaaatccctg aaaataaaaa gaaagaagaa gaattgcaac	1740
gtaaatggga agcgatgcaa caaacgggg cgttggtgca aaacgcttta accgaaaaca	1800
acatcgctga gatcgtagc caatggacgc atatcccggt ccaaaaaatg ctccaaagcg	1860
aaaaaaatag ggttttaaac attgaaagcg aattgcaaaa aagagtgggtg gggcaagaaa	1920
aagcgatcaa agcgatcgct aaagcgatta aaaggaataa ggccggactt agcgatagca	1980
ataaacccat agggagtttc ctctttttag ggccaacagc cgtgggtaaa accgagagcg	2040
ctaaagcctt ggcgcaattc ttgtttgata gcgataaaaa tcttataaga attgacatga	2100
gcgaatatctt ggaaaagcat gccataacct gtcttatttg gcccgctcct gggatgtgg	2160
gctatgaaga aggcgggcag ttgaccgaag cggtgcgag aaagccttat agcgtgggtgc	2220
tgttagatga agtggaaaaa gccatccag atgtgtttta cctcttgttg cagggttttag	2280
atgaagggca ttaaacgat agtaaggcg tgagggtgga tttcaaaaac acgattttga	2340
ttttaactag caatgtagct agcggcgcg ttttggaaga aaatttgagc gaagccgaca	2400
aacaaaaagc gattaaagag agcttgagc aattcttcaa gccggaattt ttaaaccgct	2460
tagatgaaat catctcctt aacgccctag gtagtcatgc tgtcattaat atcgtgggga	2520
tactctttga aaacattcaa aaaaaagcgc ttgaaagggg cattaatata actttagacg	2580
aagaggcaaa agaattgatc gctgaagcg gatttgacag attttatggc gctagacccc	2640
taaagcgtgc actctatgaa atggtagaag acaagctcgc tgaactcatt ttagaggata	2700
aaattaaaga gaatggcagc gtggcatttg tggtagaaaa taacgagatt gtgcctaaga	2760
ttaagtgaag tttggttatc ctaaaaata agaaatggtt attttgaaaa aaggattgaa	2820
tgatgtttga taacacgctt gttaatctct ttgacacagc gcctctttta acttcgcttt	2880
tagccgggat ttaactttt ttaagccctt gcgtgttgcc tttgatcccg gcgtatatgt	2940
cttatatttc gcaaatctt ttagaggata ttaaagatgg taaggctaaa agggtttcgg	3000

tttttttaaa atccttgatg tttgtggtag ggttttcgct cgtgtttttg ggcgtgggca	3060
tgtctatggc taagcttata catagctttt cgttttcctg ggtgaattat atcgctgggg	3120
g	3121

<210> 11
 <211> 3125
 <212> DNA
 <213> Arabidopsis thaliana

<400> 11	
ccttttgctt cttctccttt acttcctttt ttttttcttt ccatcatttt gtcacaaacc	60
ggaaaaaaaa tctcaccgga gáaaaaataa atctcaccga cgacgaattc gatcatggag	120
gtgttatcta cttcctcacc tctaacgctt cactcccacc gactcctctc tgcttcttct	180
tcttcttcac atgtcacctc catcgccgct tcttcacttt cttcatctgc ttcttcatat	240
ctcggaatct ccttttctaa ccgcacgac caccgcttct ccacaactcc gacgaactta	300
agacgatttc ctcaaagaaa acggaagaaa ttcactccga tttcagcggg tttcgaacgg	360
ttcacggaac gagcgatcag agctataatc ttctctcaga aggaagctaa atcgttggga	420
aaagatatgg tttacacgca gcatcttctc ttaggtttga tcgctgagga tcgtgatcct	480
caaggcttcc ttggatccgg tatcaccatc gacaaggctc gtgaagctgt ttggagtatt	540
tgggacgaag ctaattccga ttcgaaacag gaggaagctt cttctacttc gtattcaaaa	600
tcgacggaca tgcctttctc tatcagcacg aaacgagtct ttgaagctgc ggttgagtac	660
tctaggacta tggattgtca atatatcgca ccggagcata tagccgttgg actcttcacc	720
gttgatgatg gtacgcgccg cagagtctctc aagagattgg gagcaaatat gaatttgctc	780
acagctgcag cacttacaag acttaaagga gagattgcta aagatggaag agagccatct	840
tcttcactta aagggagctt cgagtctcct cctagtggtc gaattgctgg ttctggacct	900
ggtggaaaaa aagcgaaaaa tgtactggaa cagtctctgt tggatctgac agcacgtgct	960
agtgaggggtc ttattgatcc tgttattggt cgggaaaaag aggttcaaag agttatccag	1020
atactttgcc gcagaactaa aaacaaccca attcttcttg gtgaagctgg tgttggaag	1080
actgccattg ctgaaggact agcgattagt attgcagaag ccagtgtctc tggatttctc	1140
ttgacgaaac gcatcatgtc cctggatata ggattgctaa tggccggtgc aaaagaaagg	1200
ggagagctgg aggctcgagt cactgctttg ataagcgagg ttaaaaaatc aggtaaggctc	1260
attctcttca tagatgaagt gcatacactt attgggtctg gcacagttgg aagagggaaac	1320
aaagggctct ggcttgacat tgctaacctc ttgaaacat cacttggaag ggggtgaactt	1380
cagtgcattg catccacaac ccttgacgaa tttaggagtc agtttgagaa ggacaaaagcc	1440

cttgcaagga gatttcagcc agtgttgatt aacgagccaa gcgaggaaga tgcggtgaag	1500
attttgttgg gccttcgtga aaaatatgaa gcccatacaca attgcaaata tactatggaa	1560
gccatagatg ctgcagtgtg cctttcatca cgatatatcg ctgatagatt tcttccagat	1620
aaagctattg atctcattga cgaggcagga agcagagctc gtattgaagc ttttaggaag	1680
aaaaaggagg atgcaatctg tatcctatcg aagccaccta atgattactg gcaagagatc	1740
aaaacagttc aggccatgca cgaagtgggt ctctcaagca ggcaaaagca ggatgacgggt	1800
gatgccatth cagatgagtc tgggtgaacta gttgaagagt cttctttgcc aqctgcagca	1860
ggcgacgatg agcctatact ggtgggacct gatgatattg cagccgttgc atcgggttgg	1920
tctggaattc cagttcagca gatcactgca gatgaaagaa tgcttcttat gagtctagaa	1980
gatcagctta gaggcagagt tgttgggtcaa gatgaggcgg tagctgccat atctagagct	2040
gtgaagaggt cccgggttgg cttaaaagat cccgaccgtc caattgctgc tatgcttttc	2100
tgtggacca caggggttgg aaaaacggag cttacaaaag ctctggcagc aaattattht	2160
ggctcggaag aatccatgct gagattggac atgagtgaat acatggagcg tcatactgtg	2220
agcaagctga taggctctcc tcttggttat gttggctttg aagaagggtg aatgcttaca	2280
gaagctatca ggagacgtcc ttttacagtg gttttgttcg atgaaataga gaaagcacat	2340
ccggatatct tcaatattct tctocagctg ttcgaagatg gccatctaac tgattcacag	2400
ggaaggagag tatcttttaa gaacgcattg atcataatga cctctaattg cggatcattg	2460
gccattgcaa agggaagaca tggttcaata gggtttatcc tcgatgatga tgaagaggca	2520
gcattctata ccggaatgaa agctttggta gtcgaagaac tcaagaacta tttccgtcca	2580
gagttgttga accgaataga cgaaatcgct attttccgac agctagagaa ggctcagatg	2640
atggagatct tgaacctgat gctacaagac ttgaagtcga ggctcgtggc actcggagtt	2700
ggttttagagg tgtctgaacc cgtcaaggag ctcatatgca aacaaggcta tgatccagct	2760
tacggtgcac gaccactccg gagaactgct acagagattg ttgaagatcc actcagtga	2820
gcctttcttg ccgggagctt caagcctggg gatacggctt ttgtagttct tgatgatacc	2880
ggaaacccat cggttcggac caaacagat tcttccacta tacgagttac agacaaaaca	2940
tcgatcgcat agtttcacca ttggaggatt gtatataaag attctttgat tatactcact	3000
cgtcttatac ttaaatctca attgcttggt gcaaacttgt atatataaag atacatagtg	3060
attagtcctg gaggtaattg tattaagtat ttgttattcc tcgaattaaa actatccttt	3120
cattc	3125

<210> 12
 <211> 3503

<212> DNA

<213> Escherichia coli

<400> 12

ggatcctcga ccagcgagtg ctggttaacg gcaaagtttg tgataagccg aaagaaaaag	60
tattgggttg cgagcaggtt gccatcaacg ctgagattga agaagaagcg cgttttgaac	120
cgcaggatat cccgctggat atcgtctatg aagatgaaga cattattatc attaataaac	180
cgcgcgacct ggtggtacat cctggcgcg gtaacccgga tggcacggta ctgaatgcgt	240
tgcttcatta ctatccaccc attgccgatg taccgcgtgc ggcatcgtcc atcgtctgga	300
taaagacacc actggcctga tggttgtggc aaaaaccgtt ccggtcaga cgcgtttagt	360
cgaatctttg caacggcggtg aaattactcg tgagtatgaa gcggtggcga ttggtcatat	420
gaccgcaggt ggcacgggtg acgagccaat cagtcgccac ccgaccaaac gtacccatat	480
ggcggtgcat ccgatgggca aaccagcggg gactcactat cgcacatggt aacacttccg	540
tgtgcacacg cgtctgcggt tgctctgga aactggacgt acgcaccaga tccgcgtgca	600
tatggcccat atcactcatc cgctggtggg cgatccggtt tatggtggcc gtccgcgtcc	660
gccaaaaggt gcttcggaag ctttatctc cacgctgcgt aagtttgacc gccagcgct	720
acatgcaacc atgctgcgtc tttatcacc gatctccggc atcgaaatgg aatggcatgc	780
gcctattcca caagatatgg tggagctgat tgaggtgatg cgcgccgatt tcgaagaaca	840
taaggatgaa gtggactggt tatgagtaag ctgattgtcc cgcagtggcc gcagccaaaa	900
ggtgttgcg cctgtagctc cactcgtatc ggcggcgtga gcttgccccc gtatgactca	960
ctcaacctcg gtgcccattg tggcgataac ccggtcacg ttgaggagaa tcgcaagcga	1020
ctttttgctg cgggcaattt gccttctaaa ccggtctggc ttgagcaggt acacggcaaa	1080
gatgtgctta agctcactgg cgaaccttat gcctcaaaac ggcgggatgc ctcttatagc	1140
aatacgcccg gcacggtttg cgcagtgatg actgccgact gcctccctgt gctgttttgc	1200
aatcgagcgg gaacggaagt gcgcgcgct catgctggct ggcgtggact gtgcgcaggc	1260
gtgctggaag agacggtttc ctgttttct gataatccgg aaaatattct cgcctgggta	1320
gggcgggcaa ttggtccacg cgcgttcgaa gtgggggggg aggttcgca ggcgtttatg	1380
gcagtagacg ctaaagcaag tgcagctttc attcagcatg gtgataagta tctggcggat	1440
atztatcagc ttgcccggca gcgtctggcg aacgtgggtg ttgagcaaat tttcggcggc	1500
gaccgttgta catatacgga aaatgagact ttcttctctt atcgtcgcga caagaccacc	1560
ggtcgtatgg caagtttcat ttggctgata taacctaaag aatcaagacg atccggtacg	1620
cgtgattttc ttttcacatt aatctggtca ataacctga ataattgagg gatgacctca	1680
tttaatctcc agtagcaact ttgatccgtt atgggaggag ttatgcgtct ggatcgtctt	1740

actaataaat tccagcttgc tcttgccgat gcccaatcac ttgcactcgg gcacgacaac	1800
caatttatcg aaccacttca tttaatgagc gccctgctga atcaggaagg gggttcgggt	1860
agtcctttat taacatccgc tggcataaat gctggccagt tgcgcacaga tatcaatcag	1920
gcattaaatc gtttaccgca ggttgaagggt actggtggtg atgtccagcc atcacaggat	1980
ctggtgcgcg ttcttaatct ttgcgacaag ctggcgcaaa aacgtggtga taactttatc	2040
tcgtcagaac tgttcgttct ggcggcactt gagtctcgcg gcacgctggc cgacatcctg	2100
aaagcagcag gggcgaccac cgccaacatt actcaagcga ttgaacaaat gcgtggagggt	2160
gaaagcgtga acgatcaagg tgctgaagac caacgtcagg ctttgaaaa atataccatc	2220
gaccttaccg aacgagccga acagggcaaa ctcgatccgg tgattggtcg tgatgaagaa	2280
attcgccgta ccattcagggt gctgcaacgt cgtactaaaa ataaccgggt actgattggt	2340
gaaccggcg tcggtaaaa tgccatcggt gaaggtctgg cgcagcgtat tatcaacggc	2400
gaagtgccgg aagggttgaa aggccgccgg gtactggcgc tggatatggg cgcgctggtg	2460
gctggggcga aatatcgcg tgagtttgaa gaacgtttaa aaggcgtgct taacgatctt	2520
gccaaacagg aaggcaacgt catcctatct atcgacgaat tacataccat ggtcggcgcg	2580
ggtaaagccg atggcgcaat ggacgccgga aacatgctga aaccggcgct ggcgcgtggt	2640
gaattgcact gcgtagggtg cagcagcgtt gacgaatatc gccagtacat tgaaaaagat	2700
gctgcgctgg aacgtcggtt ccagaaagtg tttgttgccg agccttctgt tgaagatacc	2760
attgcgattc tgcgtggcct gaaagaacgt tacgaattgc accaccatgt gcaaattact	2820
gacccggcaa ttgttgacg gccgacgttg tctcatcgct acattgctga ccgtcagctg	2880
ccggataaag ccatcgacct gatcgatgaa gcagcatcca gcattcgatg gcagattgac	2940
tcaaaaccag aagaactcga ccgactcgat cgtcgtatca tccagctcaa actggaacaa	3000
caggcgtaa tgaaagagtc tgatgaagcc agtaaaaaac gtctggatat gctcaacgaa	3060
gaactgagcg acaaaagacg tcagtactcc gagttagaag aagagtggaa agcagagaag	3120
gcacgcgttt ctggtacgca gaccattaaa gcggaactgg aacaggcgaa aatcgctatt	3180
gaacaggctc gccgtgtggg ggacctggcg cggatgtctg aactgcaata cggcaaaatc	3240
ccggaactgg aaaagcaact ggaagccgca acgcagctcg aaggcaaaac tatgcgtctg	3300
ttgcgtaata aagtgaccga cgccgaaatt gctgaagtgc tggcgcggtg gacggggatt	3360
ccggtttctc gcatgatgga aagcgagcgc gaaaaactgc tgcgtatgga gcaagaactg	3420
caccatcgcg taattggtca gaacgaagcg gttgatgcgg tatctaacgc tattcgtcgt	3480
agccgtgcgg ggtggcgga tcc	3503

<210> 13
 <211> 532
 <212> DNA
 <213> *Bacillus subtilis*

<400> 13
 aggtgtaggt aaaacggcta tcgcagaagg tttggcacag caaattatca ataatagaagt 60
 acccgaaatt ttgcgtgata aacgtgtgat gacattagac atgggaacag ttggtgccgg 120
 cacaaaatac cgcggagaat ttgaggatcg cctgaagaag gtcattgtag aaattcgcca 180
 ggcaggaaat atcattctat tcacgatga gctccataca ttaatcgggg caggcggagc 240
 agaaggtgct attgatgcat ctaatatattt aaaaccttca cttgctcgtg gcgaactcca 300
 atgtattggt gcaacgactc ttgatgagta ccgtaaatat attgaaaaag atgcagcact 360
 ggaacgccgt tttcagccga ttcaggttga tcagccatct gtagatgaaa gtattcaaat 420
 tttacaaggt ctgcgtgaca gatacgaagc ccaccaccgc gtttctatca ctgatgatgc 480
 cattgaagct gcggttaagc tttctgacag atatatttct gaccgcttcc tt 532

<210> 14
 <211> 3464
 <212> DNA
 <213> *Corynebacterium glutamicum*

<400> 14
 ggatccgaag ttgaagtcgg gagcgcttaa tgagtacggc gtggccttata tcgggtttgc 60
 tccatttgaa atcggcatga catcatcgcg ccgatcgcgg ttgctcgcag gctttaccat 120
 ggggttgggt tgggcgtcgt tgattgttgc gatcgtgatt tttggcctcg cgtggggctc 180
 gaagtgggtt ccggagcgcg gacatgtccg cggcgagggt aagccgcaat aaaggttgga 240
 agcgccgggt ctaggtccgg cgcttttttc gtatgctttt cgacgcctcc ctccacgtaa 300
 cattaaagtt acgggttttc cctgatgctt aagtggtagt cagtgcctaa aattgactgc 360
 ggtccactca atttattttc aaattttttt aacttgagtg gaacatactc aactctttgt 420
 gcgttataga tattagagag ttaaataatg gcgcttgacc tgcaggaaat tgagatcaac 480
 actgattgtg taggttggcg cccaacaaag aaagggcggt gaaagatgag ttcattcaat 540
 ccaactacca aaaccaatga agccatgcag gctgctcttc agcaggcatc ctcggctggc 600
 aaccctgata ttcgctcagc tcacctgttg gctgccatct tggagcaaac tgatggcgta 660
 gcagcgccag tcctcatggc tactgggtgtg gatcctaagg agatcctcgc agaggccaag 720
 aagttgggtt cttcttacct caaggcttct ggcgccaata tggctaatac aaacttcaac 780
 cgggatgcc tcaatgcgtt cactgcagct caggagcttg ccggtgagtt gggcgatgag 840
 tacgtctcaa ccgaagtact tcttgccggg atcgctcgcg gaaagtctga tgctgcggat 900

ctgttgacca acaaggggtgc aacctatgac gccatcaaag aggccttccc ttcggttcgt	960
ggatctcagc gtgtcaccac tcaggatcca gagggacagt tccaggtttt ggaaaagtac	1020
tccactgacc tgaccaagct tgctcgtgaa ggcaagattg atcctgttat tggccgtgac	1080
caggaaattc gtcgcgtcgt tcaggtgctt agccgtcgta ccaagaacaa ccctgttctg	1140
atcggtgagc caggtgtcgg taaaaccgcc atcgtggaag gccttgacacg ccgcatcggt	1200
gctggtgacg ttccagaatc cctcaagggc aaaactctga tcagtcttga tcttggttcc	1260
atggttgccg gcgctaagta tcgcggtgaa ttcgaggagc gactgaaggc tgttctggat	1320
gagatcaagg gagctaaccg cgaagtcgtt accttcacgc atgagctgca caccatcgtc	1380
ggcgctggtg cttcgggtga atccgccatg gatgccggaa acatgattaa gccactgctt	1440
gcccgcggtg agctgcgctt gggttggtgcc accacgctga atgagtaccg caagtacatc	1500
gaaaaggacg ctgccctgga gcgtaggttc cagcaggttt atgtcgggtga gccaacggta	1560
gaagatgcca tcggtattct tcgtggattg aaggaacgct acgaggtcca tcacggtgtc	1620
cgcattccagg actccgcact ggtcgccgca gctgaactct caaaccgcta tatcaccagc	1680
cgtttccttc ctgataaggc tattgactta gttgatgagg cagcatcacg cctgcgcagt	1740
gagattgatt cttcacctca ggaaatcgat gagctggagc gtatcgctccg ccgcctcgag	1800
atcgaagaga tggcgctgtc caaggaatcc gatgcagctt ccaaggaacg tctagaaaag	1860
ctgcgctcgg aacttgctga tgaacgcgaa aagctctctg agttgaaggc tcgttggcag	1920
aatgagaaaa ctgctattga cgatgtccgt gagatgaagg aagagctgga agcgctgcgt	1980
tctgagtcgg atattgcaga acgtgacggc aattatggtc gtgtcgcaga gctgcgctac	2040
ggccgaatcc ctgagctgga aaagcagatc gaggatgcag aatccaaggt cgaggtcaat	2100
gaaaaatgcca tgctcactga ggaggtcacg ccagacacga tcgccgatgt ggtttccgca	2160
tggacgggca ttctcgcagg caagatgatg cagggtgaga ccgagaagct gctcaacatg	2220
gagcgcgtct tgggcaaccg tgtggtcggc cagctagaag cggtaactgc agtgtctgac	2280
gcggtgcgtc gttcacgcgc ggggtgtgcc gatccaaacc gtccaactgg ttcttctctg	2340
ttccttgac ctaccggcgt cggtaagact gagctggcca aggctgtcgc ggagttcctc	2400
ttcgtgatg atcgcgccat gatccgcac gatatgtccg aatacgggtga gaagcactcg	2460
gttgctcgtc tggtcggtgc ccctccggga tacgtcggct atgaccaggc cggtaactc	2520
actgaggcag tgcgcgctgc tccgtacacc gtcgtgcttt tcgacgaggt ggagaaggct	2580
cacctgatg tcttcgatat cctcctgcag gttctcgacg agggtcgcct caccgacggc	2640
caaggccgga ccgtggattt ccgcaacacc atcttgatcc tcacctctaa cctgggcgca	2700

ggcggctactc	gcgaacaaat	gatggatgct	gtgaagatgg	cattcaagcc	tgagttcgtg	2760
aaccgtctc	atgatgtt	gatcttcgat	cgtttgctcc	ctgagcagct	gaccagcatc	2820
gttgatatcc	agatcaagca	gctgactgac	cgtttggtctg	gccgcaggct	taaccttcga	2880
gtcagcgaca	gcgcgaaggc	ttggctggcg	gagcgtggct	acgacctgc	ttatggtgct	2940
cgtccgttgc	gcaggctgat	ccagcaggcc	atcggtgata	ctttggctaa	ggaactgctg	3000
gcaggcaacg	tccgtgatgg	cgatggtgtg	cttgctcgacg	tcgccgacgg	cggccagaag	3060
ctcgacgttt	ccaggcggtt	ctaacggctc	gtgggcaagc	aggaaaagct	gcgcattcct	3120
ctcgatgttc	cgggagtggg	atcagaagag	gtaggtgtag	aactgcttgc	cgaaggctac	3180
tacctggtag	ccactttgcc	ggctgtcgcc	caggactgtg	ccctgggtga	cgctgtgcgg	3240
gcacatcatg	ttgatgaggt	cttggaattt	caagaagtgg	cagttgctgg	cggaaacaaa	3300
accctccggg	tgctcgttga	tgccatcgct	gctgaccacg	tcgagaccca	actagaacaa	3360
cttgggtctac	acgtggaagc	tcccattgca	gaaatgctaa	ctgtcaatat	tgcccccgat	3420
tcaccgtcgc	acggttttga	gatcctgctc	gatgatctgc	atgc		3464

<210> 15
 <211> 3301
 <212> DNA
 <213> *Saccharomyces cerevisiae*

<400> 15						
tttctttcgt	tgttcttgta	gatatatatt	tttccagaat	tttctagaag	ggttattaat	60
tacaatctta	aacgttccat	aaggggccgc	gatttttttg	ttcaattttc	aacagggggc	120
ccatctcaaa	gaactgcaaa	ttatatcaca	gtaaaaggca	aaggggcgca	aacttatgca	180
acctgccaga	ttattatata	aggcattgta	atcttgccctc	aattccttca	taattcggtc	240
ctttgtcact	tgttcctttt	tacccttgaa	tcgaatcagc	aataacaaag	aaaaaagaaa	300
tcaactacac	gtaccataaa	atatacagaa	tatatgaacg	accaaacgca	atttacagaa	360
agggctctaa	cgattttgac	gttggtctca	aaattggctt	cggatcatca	acatccacaa	420
ttacaacctt	tacatatctt	agctgccttc	attgaaacgc	cagaagatgg	atcagtcctt	480
tacctacaga	atctaattga	gaagggccgt	tacgactatg	atcttttcaa	gaaagtgggt	540
aatagaaatc	tagtaagaat	tcctcaacag	caacctgcac	ctgcggagat	aactccaagt	600
tatgcttttg	ggaaagtcct	tcaagacgct	gctaagattc	aaaaacaaca	gaaggactca	660
tttatagcgc	aagaccatat	attgtttgct	ctattcaatg	attcgtctat	tcagcaaata	720
tttaaggaag	ctcaagtaga	tattgaggcc	atcaagcaac	aagctcttga	acttcgtggt	780
aacactagaa	ttgactctcg	tggcgctgat	acgaacacac	ctttggaata	tttatcaaa	840

tacgccattg atatgactga gcaggctcgt caaggtaaac ttgaccctgt catcggccgt 900
 gaagaagaaa taagaagcac tattagagtt ttagcaagaa gaattaagtc caacccatgt 960
 ttaattgggtg agccagggtat cggtaagacc gctattattg aagggtgttc tcaaagaatc 1020
 attgacgatg acgttcccac tatcttaciaa ggcgctaaat tgttcagtct agatttggcc 1080
 gcattaaccg cagggtgctaa atacaaagggt gatttcgaag aaagattcaa aggtgttttg 1140
 aaggaaatcg aagaatcaaa gactctaatt gtgttattca ttgatgaaat tcacatgtta 1200
 atgggtaatg gtaaggacga cgctgctaac atcttgaagc cagctttgtc cagaggccaa 1260
 ttgaagggtca tcggtgccac caccaataac gaatatagat ctattgtgga aaaggatggt 1320
 gcctttgaaa gaagattcca gaaaattgaa gtcgctgaac caagtgtgag acaaacagt 1380
 gccatattga gaggtctgca accaaagtat gaaatacatc atgggtgaag gattctggat 1440
 agcgccttag tcaactgctgc tcaattagcc aagcgttact tgccatatag aagattgcca 1500
 gattctgctt tggatttagt tgatatttct tgtgctggtg tcgccgtcgc aagagattct 1560
 aagccagaag aattggattc caaggaacgt caattgcaat tgattcaagt agagataaaa 1620
 gctctagaga gagatgaaga tgccgactcc accactaaag atagattaaa gttagctagg 1680
 cagaaggaag cttcattgca agaagaattg gaacctctaa gacaacgtta caatgaagaa 1740
 aagcatggcc atgaagaatt gacacaagct aaaaagaaat tggatgaact ggaaaacaag 1800
 gcccttgatg ctgaacgtag atatgatact gctaccgccg ctgatttaag gtacttcgcc 1860
 atcccagata tcaaaaagca aatcgaaaag cttgaagatc aggttgctga ggaagagaga 1920
 cgtgctggtg ccaactccat gatccaaaat gtggtcgatt cagacaccat ttctgaaaca 1980
 gctgcaagat tgactggtat ccctgttaag aagttgtcag aatctgaaaa tgaaaaattg 2040
 attcatatgg aacgtgactt atcatctgaa gtcgtgggcc aaatggatgc cattaagct 2100
 gtttccaatg ccgttagatt gtctagatca ggtttagcta atccaaggca accagcatcc 2160
 ttcttatttt taggtttgtc cggttcgggt aaaactgaat tggctaaaaa agttgctgga 2220
 tttttgttta atgatgagga catgatgatc agggtcgatt gttctgaatt aagcgagaag 2280
 tatcggtct ctaagttgtt ggggtaccacg gcagggttatg tcgggtacga tgaagggtgc 2340
 tttttaacta accaactgca atacaaacca tactccgttt tggtattcga tgaagtagaa 2400
 aaggcacatc ctgatgtttt gactgtcatg ctacaaatgt tggatgacgg tagaattact 2460
 tctggtcaag gtaagacgat cgactgttcc aattgtattg tcatcatgac ttccaatcta 2520
 ggtgctgaat ttatcaattc tcaacaagga tcaaagatcc aagaatctac caagaatttg 2580
 gtcatgggtg ctgttaggca acatttcaga ccagaatttt tgaacagaat ttctagtata 2640
 gtcattttca acaagctatc tagaaaagct attcataaga tcgtggatat tcgtttgaag 2700

gaaattgaag agagattcga gcaaaatgat aaacattaca agttgaattt aactcaagag	2760
gccaggact tcttggccaa atatggttat tccgatgata tgggtgcacg tccactgaac	2820
aggttaattc aaaacgaaat tttgaacaaa ctggcactaa ggatcttaaa gaatgaaatc	2880
aaggataagg aaactgtcaa tgtcgtcttg aagaagggtta aatctcgtga tgaaaatggt	2940
cctgaggaag ctgaagaatg tctggaagtt ctaccaaatc acgaagctac tataggggct	3000
gacacgttag gtgatgacga taatgaggac agtatggaaa ttgatgatga cctagattaa	3060
tttaatatag tgtgatTTTT aaaaactttc gaacaagaat cagtaatata atatatataa	3120
ttaataaaac taatggaatt tgtttaattg aacttgacac ccgagcaaaa gagctcacat	3180
tttaacgttt agttcatctt gctgtgaata atctaaaagt aaacaatgga caaaaaagtt	3240
ccactggacg tcaaatcttt ttttattgta tttgggacat atggcggtga taactaaagt	3300
t	3301

<210> 16
 <211> 2800
 <212> DNA
 <213> Trypanosoma brucei brucei

<400> 16	
atccgcttga gatatatcgc catcattatt taagccaaac agaagtgaag gtagcaaaag	60
agatctataa ggaaagggtg caacagtcac accagggtatt aaacaatggc acattcagat	120
cgccaatgta caaacgcagc gcaaactgca ttgtcagatg ctgttgagtc ggcacggaag	180
cacaacaacg gttttgtcga tcccgcgcac cttgcgcttg tattgtttaa gaatgaagat	240
ggacttgctt cacgtgtatt gcgtaaactc aatgcgggta cggtgctgga gccactcgcc	300
gcacgagttg gtgcacttcc ggagcagagg ccgcgcccgc ggtccatcac cttctccagc	360
gatggtggtt gtgctcaaca ccgcagagca gaagcgaata gagtgggtga ctcacttatt	420
gctgttgatc atcttcttat tgggttggtt gaatgtaagg aagttgaggc catcatgaag	480
gccgcacacg cgtcgaagaa agccgttgaa ggtgcgcttc tggagttacg caaaggaaaag	540
aaggttacat ccgaattcca ggaggaaaac taccaagctc ttgaaaaata cgcaaccgac	600
ttgtgtaaac tggcggagga ggggaaactt gatccagtga ttgggcggac tgatgaggtt	660
ctgcgcacaa tacgcgttct atcgagacga acaaaaaaca acccaattct gattgggtgag	720
cccgtgtcgc gcaagactgc gatcgcgag ggaattgcgc agcggattgt acgtggggac	780
gtgccggaca ccttgttgaa tacacgtttg tttcccttg acctcggcgc ccttatcgct	840
ggaagctcgc ttcggggcga gtttgaggag cgtctcaaga gtgtgctaaa cgaagtgaag	900
gagagttcca atggagttat tttgtttatt gatgagattc acctcgtcct cggggcaggg	960

aagtcgggtg gctcgtatgga tgccgcaa at ttgctgaaac caatgctcgc acgtggagaa	1020
cttcgtacta ttggagcgac tacactggag gactatcgca catatgtcga gaaggatgcc	1080
gcatttgaga ggcgcttcat gcctgtgtat gttacagagc ccagtgttga agagtgcac	1140
agcatccttc gtggcctaaa ggaccgggtat gaggcacacc atgggtgttca aattactgac	1200
aatgcgggtt ttgttgacgc acagctggcg aaccgttaca tcacaaaccg ctctatgcct	1260
gacaaggcca tcgacctcat tgatgaagcg tgtgccaatg tgagggtgca gctttcatcg	1320
cggccggagg cgattgacat ccttgagcgc aagaaacgcc agctggagat tgaggcgaag	1380
gctctcgaaac gtgacaagga agctgcttca cgggagcgac taaaacttgt gaaggcggat	1440
atcacgcgcg ttgaggagga gctgcaacca cttgtcagca agtataatga tgagcgtcaa	1500
cgtattgatg agcttcagga gatgcagtcg cgtcttgatg agaagaagaa actggagcgc	1560
gctgtgctg atggcaaaat ggacttggct gcagacctcc agtacaatgt catccccctg	1620
attcaggacc gcattcggtc gttgaaggag gacattgaaa gacagaaggc cacattggtg	1680
caggaaaagg ttactgaagg tgacgtcgcc gctgtggtt cccgctggac cggcatccct	1740
gtggttaaat tgagtcagac ggatcgggag cggctattga acctttccat gcatctccac	1800
cgacgcgtga agggacaaga tgaggcggtt gagcggttg ccgatgcgat tattcgtgct	1860
cgtgcgggcc tgcgcggcc caactcccc actgcctcgt ttctattcct tggaccacg	1920
ggtgttgaa agacagaact ggttaaagcc gttgctgcc agttgtttga cgacgaaaag	1980
catatggtac gcattgacat gagcgagtat atggagcaac attcgggtgc acggttgatt	2040
ggtgcaccac ctggttacat tggccatgac gagggcggac agttgacgga accggtgcg	2100
cggcgccctc acgccgttgt gttgtttgat gaggtggaaa aggcacatcc aaatgtgtac	2160
aatgtgctac tgcaagtact ggatgatggc cgcttgactg actcgcgtgg acggacggtg	2220
gacttcagca acaccatcat cgtcatgaca tctaacctcg gctctgagca cctcttgaa	2280
cctgaggaga cgaatgaatc ttatgaggtg ctgcgtgaga atgtgttggc tgcctgctg	2340
tcttacttcc gacctgagct catcaatcgc ttggatgata ttgttgtgtt ccgaagactt	2400
cgtacagaag acctgcgggg tgcgttgac aatcttatcg ctggcggtta cgagcgtctc	2460
aatccagtg ggttttctgt tttgctggat gatggtgtga aggatttcat tttggagcat	2520
ggccacgatg ccaatatggg cgctcgccc ctacgccgtt ggatcgaaaa gaacatcgtc	2580
actgaaatcg gccgcatgct catcgcaag gagctgccac caaacagcac ttacgagtt	2640
tcacttctcg aagggtggaa caaactaacg tttggtgtga aacgggggct taccagtgc	2700
gaatgggaat aaaggcgcta gacaaacaga aaggatatat ctatatcgat atatgtgtt	2760

ccgtttttgt cctggtgatg agcgggtgtg tgggacgcat

2800

<210> 17
<211> 911
<212> PRT
<213> Arabidopsis thaliana

<400> 17

Met Asn Pro Glu Lys Phe Thr His Lys Thr Asn Glu Thr Ile Ala Thr
1 5 10 15

Ala His Glu Leu Ala Val Asn Ala Gly His Ala Gln Phe Thr Pro Leu
20 25 30

His Leu Ala Gly Ala Leu Ile Ser Asp Pro Thr Gly Ile Phe Pro Gln
35 40 45

Ala Ile Ser Ser Ala Gly Gly Glu Asn Ala Ala Gln Ser Ala Glu Arg
50 55 60

Val Ile Asn Gln Ala Leu Lys Lys Leu Pro Ser Gln Ser Pro Pro Pro
65 70 75 80

Asp Asp Ile Pro Ala Ser Ser Ser Leu Ile Lys Val Ile Arg Arg Ala
85 90 95

Gln Ala Ala Gln Lys Ser Arg Gly Asp Thr His Leu Ala Val Asp Gln
100 105 110

Leu Ile Met Gly Leu Leu Glu Asp Ser Gln Ile Arg Asp Leu Leu Asn
115 120 125

Glu Val Gly Val Ala Thr Ala Arg Val Lys Ser Glu Val Glu Lys Leu
130 135 140

Arg Gly Lys Glu Gly Lys Lys Val Glu Ser Ala Ser Gly Asp Thr Asn
145 150 155 160

Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu Gln Ala Gly
165 170 175

Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg Val Val
180 185 190

Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu
195 200 205

Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln Arg Ile
 210 215 220

Val Lys Gly Asp Val Pro Asn Ser Leu Thr Asp Val Arg Leu Ile Ser
 225 230 235 240

Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly Glu Phe
 245 250 255

Glu Glu Arg Leu Lys Ser Val Leu Lys Glu Val Glu Asp Ala Glu Gly
 260 265 270

Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly Ala Gly
 275 280 285

Lys Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro Met Leu
 290 295 300

Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu Glu Tyr
 305 310 315 320

Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Gln Gln
 325 330 335

Val Tyr Val Ala Glu Pro Ser Val Pro Asp Thr Ile Ser Ile Leu Arg
 340 345 350

Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg Ile Gln Asp
 355 360 365

Arg Ala Leu Ile Asn Ala Ala Gln Leu Ser Ala Arg Tyr Ile Thr Gly
 370 375 380

Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala Cys Ala
 385 390 395 400

Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp Asn Leu
 405 410 415

Glu Arg Lys Arg Met Gln Leu Glu Ile Glu Leu His Ala Leu Glu Arg
 420 425 430

Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Ile Glu Val Arg Lys Glu
 435 440 445

Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Thr Met Lys Tyr Arg
 450 455 460

Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Arg Leu Lys Gln Lys Arg
 465 470 475 480

Glu Glu Leu Met Phe Ser Leu Gln Glu Ala Glu Arg Arg Tyr Asp Leu
 485 490 495

Ala Arg Ala Ala Asp Leu Arg Tyr Gly Ala Ile Gln Glu Val Glu Ser
 500 505 510

Ala Ile Ala Gln Leu Glu Gly Thr Ser Ser Glu Glu Asn Val Met Leu
 515 520 525

Thr Glu Asn Val Gly Pro Glu His Ile Ala Glu Val Val Ser Arg Trp
 530 535 540

Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Glu Lys Glu Arg Leu
 545 550 555 560

Ile Gly Leu Ala Asp Arg Leu His Lys Arg Val Val Gly Gln Asn Gln
 565 570 575

Ala Val Asn Ala Val Ser Glu Ala Ile Leu Arg Ser Arg Ala Gly Leu
 580 585 590

Gly Arg Ala Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr
 595 600 605

Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu Phe
 610 615 620

Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr Met Glu
 625 630 635 640

Gln His Ser Val Ser Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly
 645 650 655

His Glu Glu Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Arg Pro Tyr
 660 665 670

Cys Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala Val Phe
 675 680 685

Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly Gln

690

695

700

Gly Arg Thr Val Asp Phe Arg Asn Ser Val Ile Ile Met Thr Ser Asn
705 710 715 720

Leu Gly Ala Glu His Leu Leu Ala Gly Leu Thr Gly Lys Val Thr Met
725 730 735

Glu Val Ala Arg Asp Cys Val Met Arg Glu Val Arg Lys His Phe Arg
740 745 750

Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Val Phe Asp Pro Leu
755 760 765

Ser His Asp Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys Asp Val
770 775 780

Ala Val Arg Leu Ala Glu Arg Gly Val Ala Leu Ala Val Thr Asp Ala
785 790 795 800

Ala Leu Asp Tyr Ile Leu Ala Glu Ser Tyr Asp Pro Val Tyr Gly Ala
805 810 815

Arg Pro Ile Arg Arg Trp Met Glu Lys Lys Val Val Thr Glu Leu Ser
820 825 830

Lys Met Val Val Arg Glu Glu Ile Asp Glu Asn Ser Thr Val Tyr Ile
835 840 845

Asp Ala Gly Ala Gly Asp Leu Val Tyr Arg Val Glu Ser Gly Gly Leu
850 855 860

Val Asp Ala Ser Thr Gly Lys Lys Ser Asp Val Leu Ile His Ile Ala
865 870 875 880

Asn Gly Pro Lys Arg Ser Asp Ala Ala Gln Ala Val Lys Lys Met Arg
885 890 895

Ile Glu Glu Ile Glu Asp Asp Asp Asn Glu Glu Met Ile Glu Asp
900 905 910

<210> 18

<211> 918

<212> PRT

<213> Triticum aestivum

<400> 18

Met Asn Pro Asp Asn Phe Thr His Lys Thr Asn Glu Ala Leu Val Ala
 1 5 10 15
 Ala His Glu Ala Ala Ser Glu Ala Gly His Ala Gln Ile Thr Pro Leu
 20 25 30
 His Leu Ala Ala Ala Leu Ala Ala Asp Lys Ser Gly Ile Leu Arg Gln
 35 40 45
 Ala Val Ala Gly Ala Ser Gly Gly Asn Ala Ser Ala Gly Asp Ser Phe
 50 55 60
 Glu Arg Val Leu Ser Gly Ala Leu Lys Lys Leu Pro Ser Gln Ser Pro
 65 70 75 80
 Pro Pro Asp Ser Val Pro Ala Ser Thr Ala Leu Ile Lys Ala Ile Arg
 85 90 95
 Arg Ala Gln Ser Ala Gln Lys Lys Arg Gly Asp Ser His Leu Ala Val
 100 105 110
 Asp Gln Leu Leu Met Gly Leu Leu Glu Asp Ala Gln Ile Ala Asp Cys
 115 120 125
 Leu Lys Glu Ala Gly Val Ser Ala Ser Arg Val Arg Ala Glu Leu Glu
 130 135 140
 Lys Leu Arg Gly Gly Asp Asn Ser Arg Lys Val Glu Ser Ala Ser Gly
 145 150 155 160
 Asp Thr Asn Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu
 165 170 175
 Val Ala Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg
 180 185 190
 Arg Val Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu
 195 200 205
 Ile Gly Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala
 210 215 220
 Gln Arg Val Val Arg Gly Asp Val Pro Ser Asn Leu Leu Asp Val Arg
 225 230 235 240

Leu Val Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg
 245 250 255

Gly Glu Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu
 260 265 270

Ala Glu Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu
 275 280 285

Gly Ala Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys
 290 295 300

Pro Met Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu
 305 310 315 320

Glu Glu Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg
 325 330 335

Phe Gln Gln Val Tyr Val Ala Glu Pro Ser Val Ala Asp Thr Ile Ser
 340 345 350

Ile Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg
 355 360 365

Ile Gln Asp Arg Ala Ile Val Val Ala Ala Gln Leu Ser Ala Arg Tyr
 370 375 380

Ile Met Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu
 385 390 395 400

Ala Cys Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile
 405 410 415

Asp Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala
 420 425 430

Leu Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Val Glu Val
 435 440 445

Arg Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Thr Met
 450 455 460

Lys Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Lys Leu Lys
 465 470 475 480

Gln Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln Glu Ala Glu Arg Arg

485

490

495

Met Asp Leu Ala Arg Val Ala Asp Leu Lys Tyr Gly Ala Leu Gln Glu
500 505 510

Ile Asp Ala Ala Ile Ala Lys Leu Glu Gly Glu Thr Gly Glu Asn Leu
515 520 525

Met Leu Thr Glu Thr Val Gly Pro Glu Gln Ile Ala Glu Val Val Ser
530 535 540

Arg Trp Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Asp Lys Glu
545 550 555 560

Arg Leu Val Gly Met Ala Asp Arg Leu His Thr Arg Val Val Gly Gln
565 570 575

Thr Glu Ala Val Asn Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala
580 585 590

Gly Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly
595 600 605

Pro Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln
610 615 620

Leu Phe Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr
625 630 635 640

Met Glu Gln His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr
645 650 655

Val Gly His Glu Glu Gly Gly Gln Leu Thr Glu Gln Val Arg Arg Arg
660 665 670

Pro Tyr Ser Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala
675 680 685

Val Phe Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp
690 695 700

Gly Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr
705 710 715 720

Ser Asn Leu Gly Ala Glu His Leu Leu Ala Gly Met Val Gly Lys Asn
725 730 735

Ser Met Lys Val Ala Arg Asp Leu Val Met Gln Glu Val Arg Arg His
 740 745 750

Phe Arg Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Val Phe Asp
 755 760 765

Pro Leu Ser His Glu Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys
 770 775 780

Asp Val Ala Val Arg Leu Ala Glu Arg Gly Val Ala Leu Ala Val Thr
 785 790 795 800

Asp Ala Ala Leu Asp Val Ile Leu Ser Leu Ala Tyr Asp Pro Val Tyr
 805 810 815

Gly Ala Arg Pro Ile Arg Arg Trp Ile Glu Lys Arg Val Val Thr Gln
 820 825 830

Leu Ser Lys Met Leu Ile Gln Glu Glu Ile Asp Glu Asn Cys Thr Val
 835 840 845

Tyr Ile Asp Ala Ala Asn Lys Asp Glu Leu Ala Tyr Arg Val Asp Arg
 850 855 860

Ser Gly Gly Leu Val Asn Ala Glu Thr Gly Gln Arg Ser Asp Ile Leu
 865 870 875 880

Ile Gln Val Pro Asn Gly Ala Leu Gly Gly Gly Lys Gly Gly Glu Ala
 885 890 895

Ala Lys Ala Val Lys Lys Met Arg Val Met Glu Asp Gly Asp Glu Asp
 900 905 910

Gly Met Asp Glu Asp Val
 915

<210> 19
 <211> 918
 <212> PRT
 <213> Triticum aestivum

<400> 19

Met Asn Pro Asp Asn Phe Thr His Lys Thr Asn Glu Ala Leu Val Ala
 1 5 10 15

Ala His Glu Ala Ala Ser Glu Ala Gly His Ala Gln Ile Thr Pro Leu
 20 25 30

His Leu Ala Ala Ala Leu Ala Ala Asp Lys Ser Gly Ile Leu Arg Gln
 35 40 45

Ala Val Ala Gly Ala Ser Gly Gly Asn Ala Ser Ala Gly Asp Ser Phe
 50 55 60

Glu Arg Val Leu Ala Gly Ala Leu Arg Lys Leu Pro Ser Gln Ser Pro
 65 70 75 80

Pro Pro Asp Ser Val Pro Ala Ser Thr Ala Leu Ile Lys Ala Ile Arg
 85 90 95

Arg Ala Gln Ser Ala Gln Lys Lys Arg Gly Asp Ser His Leu Ala Val
 100 105 110

Asp Gln Leu Leu Met Gly Leu Leu Glu Asp Ala Gln Ile Ala Asp Cys
 115 120 125

Leu Lys Glu Ala Gly Val Ser Ala Ser Arg Val Arg Ala Glu Leu Asp
 130 135 140

Lys Leu Arg Gly Gly Asp Asn Ser Arg Lys Val Glu Ser Ala Phe Gly
 145 150 155 160

Asp Thr Thr Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu
 165 170 175

Val Ala Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg
 180 185 190

Arg Val Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu
 195 200 205

Ile Gly Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala
 210 215 220

Gln Arg Val Val Arg Gly Asp Val Pro Ser Asn Leu Leu Asp Val Arg
 225 230 235 240

Leu Val Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg
 245 250 255

Gly Glu Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu

260	265	270
Ala Asp Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu 275 280 285		
Gly Ala Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys 290 295 300		
Pro Met Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu 305 310 315 320		
Glu Glu Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg 325 330 335		
Phe Gln Gln Val Tyr Val Ala Glu Pro Ser Val Ala Asp Thr Ile Ser 340 345 350		
Ile Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg 355 360 365		
Ile Gln Asp Arg Ala Ile Val Val Ala Ala Gln Leu Ser Ala Arg Tyr 370 375 380		
Ile Met Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu 385 390 395 400		
Ala Cys Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile 405 410 415		
Asp Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala 420 425 430		
Leu Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Val Glu Val 435 440 445		
Arg Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Thr Met 450 455 460		
Lys Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Lys Leu Lys 465 470 475 480		
Gln Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln Glu Ala Glu Arg Arg 485 490 495		
Met Asp Leu Ala Arg Val Ala Asp Leu Lys Tyr Gly Ala Leu Gln Glu 500 505 510		

Ile Asp Ala Ala Ile Ala Lys Leu Glu Gly Glu Thr Gly Glu Asn Leu
 515 520 525

Met Leu Thr Glu Thr Val Gly Pro Glu Gln Ile Ala Glu Val Val Ser
 530 535 540

Arg Trp Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Asp Lys Glu
 545 550 555 560

Arg Leu Val Gly Met Ala Asp Arg Leu His Thr Arg Val Val Gly Gln
 565 570 575

Thr Glu Ala Val Asn Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala
 580 585 590

Gly Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly
 595 600 605

Pro Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln
 610 615 620

Leu Phe Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr
 625 630 635 640

Met Glu Gln His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr
 645 650 655

Val Gly His Glu Glu Gly Gly Gln Leu Thr Glu Gln Val Arg Arg Arg
 660 665 670

Pro Tyr Ser Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala
 675 680 685

Val Phe Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp
 690 695 700

Gly Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr
 705 710 715 720

Ser Asn Leu Gly Ala Glu His Leu Leu Ala Gly Met Val Gly Lys Asn
 725 730 735

Ser Met Lys Val Ala Arg Asp Leu Val Met Gln Glu Val Arg Arg His
 740 745 750

Phe Arg Pro Glu Leu Leu Asn Arg Leu Asp Glu Met Val Ile Phe Asp
755 760 765

Pro Leu Ser His Glu Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys
770 775 780

Asp Val Ala Val Arg Leu Ala Glu Arg Gly Val Ala Leu Ala Val Thr
785 790 795 800

Asp Ala Ala Leu Asp Val Ile Leu Ser Leu Ala Tyr Asp Pro Val Tyr
805 810 815

Gly Ala Arg Pro Ile Arg Arg Trp Ile Glu Lys Arg Val Val Thr Gln
820 825 830

Leu Ser Lys Met Leu Ile Gln Glu Glu Ile Asp Glu Asn Cys Thr Val
835 840 845

Tyr Ile Asp Ala Ala Asp Lys Asp Glu Leu Ala Tyr Arg Val Asp Arg
850 855 860

Ser Gly Gly Leu Val Asn Ala Glu Thr Gly Gln Arg Ser Asp Ile Leu
865 870 875 880

Ile Gln Val Pro Asn Gly Ala Leu Gly Gly Gly Gly Gly Glu Ala
885 890 895

Ala Lys Ala Val Lys Lys Met Arg Val Met Glu Asp Gly Asp Glu Asp
900 905 910

Gly Met Asp Glu Asp Val
915

<210> 20

<211> 911

<212> PRT

<213> Glycine max

<400> 20

Met Asn Pro Glu Lys Phe Thr His Lys Thr Asn Glu Ala Leu Ala Ser
1 5 10 15

Ala His Glu Leu Ala Met Ser Ser Gly His Ala Gln Leu Thr Pro Ile
20 25 30

His Leu Ala His Ala Leu Ile Ser Asp Pro Asn Gly Ile Phe Val Leu

35	40	45
Ala Ile Asn Ser Ala Gly Gly Gly Glu Glu Ser Ala Arg Ala Val Glu 50 55 60		
Arg Val Leu Asn Gln Ala Leu Lys Lys Leu Pro Cys Gln Ser Pro Pro 65 70 75 80		
Pro Asp Glu Val Pro Ala Ser Thr Asn Leu Val Arg Ala Ile Arg Arg 85 90 95		
Ala Gln Ala Ala Gln Lys Ser Arg Gly Asp Thr Arg Leu Ala Val Asp 100 105 110		
Gln Leu Ile Leu Gly Ile Leu Glu Asp Ser Gln Ile Gly Asp Leu Leu 115 120 125		
Lys Glu Ala Gly Val Ala Val Ala Lys Val Glu Ser Glu Val Asp Lys 130 135 140		
Leu Arg Gly Lys Glu Gly Lys Lys Val Glu Ser Ala Ser Gly Asp Thr 145 150 155 160		
Asn Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu Gln Ala 165 170 175		
Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg Val 180 185 190		
Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Val Gly 195 200 205		
Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln Arg 210 215 220		
Ile Val Arg Gly Asp Val Pro Ser Asn Leu Ala Asp Val Arg Leu Ile 225 230 235 240		
Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly Glu 245 250 255		
Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu Ala Glu 260 265 270		
Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly Ala 275 280 285		

Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro Met
 290 295 300

Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu Glu
 305 310 315 320

Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Gln
 325 330 335

Gln Val Phe Val Ala Glu Pro Ser Val Val Asp Thr Ile Ser Ile Leu
 340 345 350

Arg Gly Leu Lys Glu Arg Tyr Glu Gly His His Gly Val Arg Ile Gln
 355 360 365

Asp Arg Ala Leu Val Met Ala Ala Gln Leu Ser Asn Arg Tyr Ile Thr
 370 375 380

Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala Cys
 385 390 395 400

Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp Asn
 405 410 415

Leu Glu Arg Lys Arg Met Gln Leu Glu Val Glu Leu His Ala Leu Glu
 420 425 430

Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Val Glu Val Arg Lys
 435 440 445

Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Met Met Lys Tyr
 450 455 460

Arg Lys Glu Lys Glu Arg Val Asp Glu Ile Arg Arg Leu Lys Lys Lys
 465 470 475 480

Arg Glu Glu Leu Leu Phe Ala Leu Gln Glu Ala Glu Arg Arg Tyr Asp
 485 490 495

Leu Ala Arg Ala Ala Asp Leu Arg Tyr Gly Ala Ile Gln Glu Val Glu
 500 505 510

Thr Ala Ile Gln Gln Leu Glu Gly Ser Thr Glu Glu Asn Leu Met Leu
 515 520 525

Thr Glu Thr Val Gly Pro Glu Gln Ile Ala Glu Val Val Ser Arg Trp
 530 535 540

Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Glu Lys Glu Arg Leu
 545 550 555 560

Ile Gly Leu Gly Asp Arg Leu His Ser Arg Val Val Gly Gln Asp Gln
 565 570 575

Ala Val Asn Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala Gly Leu
 580 585 590

Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr
 595 600 605

Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu Phe
 610 615 620

Asp Asn Glu Asn Gln Leu Val Arg Ile Asp Met Ser Glu Tyr Met Glu
 625 630 635 640

Gln His Ser Val Ser Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly
 645 650 655

His Glu Glu Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Arg Pro Tyr
 660 665 670

Ser Val Val Leu Phe Asp Glu Val Glu Lys Ala His Thr Ser Val Phe
 675 680 685

Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly Gln
 690 695 700

Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr Ser Asn
 705 710 715 720

Leu Gly Ala Glu His Leu Leu Ser Gly Leu Ser Gly Lys Cys Thr Met
 725 730 735

Gln Val Ala Arg Asp Arg Val Met Gln Glu Val Arg Arg Gln Phe Arg
 740 745 750

Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Val Phe Asp Pro Leu
 755 760 765

Ser His Asp Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys Asp Val
 770 775 780

Ala Ser Arg Leu Ala Glu Lys Gly Ile Ala Leu Ala Val Thr Asp Ala
 785 790 795 800

Ala Leu Asp Tyr Ile Leu Ser Glu Ser Tyr Asp Pro Val Tyr Gly Ala
 805 810 815

Arg Pro Ile Arg Arg Trp Leu Glu Lys Lys Val Val Thr Glu Leu Ser
 820 825 830

Arg Met Leu Val Arg Glu Glu Ile Asp Glu Asn Ser Thr Val Tyr Ile
 835 840 845

Asp Ala Gly Pro Asn Gly Gly Glu Leu Val Tyr Arg Val Glu Lys Asn
 850 855 860

Gly Gly Val Val Asn Pro Thr Thr Gly Gln Lys Ser Asp Ile Leu Ile
 865 870 875 880

Gln Ile Pro Asn Gly His Ala Pro Lys Thr Asp Ala Val Gln Ala Val
 885 890 895

Lys Lys Met Lys Ile Glu Glu Ile Asp Asp Asp Glu Met Glu Glu
 900 905 910

<210> 21
 <211> 912
 <212> PRT
 <213> Zea mays

<400> 21

Met Asn Pro Asp Asn Phe Thr His Lys Thr Asn Glu Ala Ile Val Gly
 1 5 10 15

Ala His Glu Ile Ala Val Glu Ala Gly His Ala Gln Leu Thr Pro Leu
 20 25 30

His Leu Ala Ala Val Leu Ala Ala Asp Lys Gly Gly Ile Leu Arg Gln
 35 40 45

Ala Ile Thr Gly Ala Ser Gly Gly Asp Gly Ala Ala Gly Asp Ser Phe
 50 55 60

Glu Arg Val Leu Asn Asn Ser Leu Lys Lys Leu Pro Ser Gln Ser Pro
 65 70 75 80

Pro Pro Asp Ser Val Pro Ala Ser Thr Ala Leu Ile Lys Val Ile Arg
 85 90 95

Arg Ala Gln Ser Ala Gln Lys Lys Arg Gly Asp Ser His Leu Ala Val
 100 105 110

Asp Gln Leu Leu Leu Gly Leu Leu Glu Asp Ser Gln Ile Ser Asp Cys
 115 120 125

Leu Lys Glu Ala Gly Val Ser Ala Ala Arg Val Arg Ala Glu Leu Glu
 130 135 140

Lys Leu Arg Gly Gly Glu Gly Arg Arg Val Glu Ser Ala Ser Gly Asp
 145 150 155 160

Thr Asn Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu Gln
 165 170 175

Ala Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg
 180 185 190

Val Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile
 195 200 205

Gly Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln
 210 215 220

Arg Ile Val Arg Gly Asp Val Pro Ser Asn Leu Leu Asp Val Arg Leu
 225 230 235 240

Ile Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly
 245 250 255

Glu Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu Ala
 260 265 270

Glu Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly
 275 280 285

Ala Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro
 290 295 300

Met Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu
 305 310 315 320

Glu Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe
 325 330 335

Gln Gln Val Phe Val Ala Glu Pro Ser Val Pro Asp Thr Val Ser Ile
 340 345 350

Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg Ile
 355 360 365

Gln Asp Arg Ala Leu Val Val Ala Ala Gln Leu Ser Ala Arg Tyr Ile
 370 375 380

Met Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala
 385 390 395 400

Cys Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp
 405 410 415

Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala Leu
 420 425 430

Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Ile Glu Val Arg
 435 440 445

Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Thr Met Lys
 450 455 460

Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Lys Leu Lys Gln
 465 470 475 480

Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln Glu Ala Glu Arg Arg Met
 485 490 495

Asp Leu Ala Arg Val Ala Asp Leu Lys Tyr Gly Ala Leu Gln Glu Ile
 500 505 510

Asp Ala Ala Ile Ser Lys Leu Glu Ser Glu Thr Gly Glu Asn Leu Met
 515 520 525

Leu Thr Glu Thr Val Gly Pro Glu Gln Ile Ala Glu Val Val Ser Arg
 530 535 540

Trp Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Asp Lys Glu Arg
 545 550 555 560

Leu Val Gly Leu Ala Asp Arg Leu His Gln Arg Val Val Gly Gln Thr
 565 570 575

Glu Ala Val Ser Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala Gly
 580 585 590

Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro
 595 600 605

Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu
 610 615 620

Phe Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr Met
 625 630 635 640

Glu Gln His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val
 645 650 655

Gly His Glu Glu Gly Gly Gln Leu Thr Glu Gln Val Arg Arg Arg Pro
 660 665 670

Tyr Ser Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala Val
 675 680 685

Phe Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly
 690 695 700

Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr Ser
 705 710 715 720

Asn Leu Gly Ala Glu His Leu Leu Ala Gly Met Val Gly Lys Asn Ser
 725 730 735

Met Lys Val Ala Arg Asp Leu Val Met Gln Glu Val Arg Arg His Phe
 740 745 750

Arg Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Ile Phe Asp Pro
 755 760 765

Leu Ser His Glu Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys Asp
 770 775 780

Val Ala Val Arg Leu Ala Glu Arg Gly Ile Ala Leu Ala Val Thr Asp
 785 790 795 800

Ala Ala Leu Asp Ile Ile Leu Ser Leu Ser Tyr Asp Pro Val Tyr Gly

	805		810		815
Ala Arg Pro	Ile Arg Arg Trp Ile Glu Lys Arg Val Val Thr Gln Leu				
	820		825		830
Ser Lys Met	Leu Ile Gln Glu Glu Ile Asp Glu Asn Cys Thr Val Tyr				
	835		840		845
Ile Asp Ala Ala Pro Gly Lys Asp Glu Leu Val Tyr Arg Val Asp Arg					
	850		855		860
Ser Gly Gly Leu Val Asn Ala Glu Thr Gly Met Lys Ser Asp Ile Leu					
	865		870		875
Ile Gln Val Pro Asn Ser Ser Thr Arg Ser Asp Ala Ala Gln Ala Val					
	885		890		895
Lys Lys Met Arg Ile Met Glu Glu Asp Glu Asp Gly Met Asp Glu Glu					
	900		905		910
<210> 22					
<211> 913					
<212> PRT					
<213> Triticum aestivum					
<400> 22					
Met Asn Pro Asp Lys Phe Thr His Lys Thr Asn Glu Ala Leu Ala Ala					
1	5		10		15
Ala His Glu Met Ala Ser Glu Ala Gly His Ala Gln Leu Thr Pro Leu					
	20		25		30
His Leu Ala Ala Ala Leu Ala Ala Asp Arg Ser Gly Ile Leu Arg Gln					
	35		40		45
Ala Ile Ala His Ala Ser Gly Gly Asn Asp Ala Ala Ala Glu Ser Phe					
	50		55		60
Glu Arg Val Ala Ser Ala Ala Leu Lys Arg Leu Pro Ser Gln Ser Pro					
65	70		75		80
Pro Pro Asp Thr Val Pro Ala Ser Thr Ser Leu Val Lys Ala Val Arg					
	85		90		95
Arg Ala Gln Ser Ala Gln Lys Ser Arg Gly Asp Ser His Leu Ala Val					
	100		105		110

Asp Gln Leu Leu Met Gly Leu Leu Glu Asp Pro Gln Ile Ser Asp Ala
 115 120 125

Leu Lys Glu Ala Gly Ile Ser Ala Ala Arg Val Lys Ala Glu Val Glu
 130 135 140

Lys Leu Arg Gly Gly Asp Asn Arg Arg Val Glu Ser Ala Ser Gly Asp
 145 150 155 160

Thr Asn Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu Val
 165 170 175

Ala Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg
 180 185 190

Val Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile
 195 200 205

Gly Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln
 210 215 220

Arg Val Val Arg Gly Asp Val Pro Ser Asn Leu Leu Asp Val Arg Leu
 225 230 235 240

Val Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly
 245 250 255

Glu Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu Ala
 260 265 270

Glu Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly
 275 280 285

Ala Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro
 290 295 300

Met Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu
 305 310 315 320

Glu Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe
 325 330 335

Gln Gln Val Phe Val Ala Glu Pro Ser Val Pro Asp Thr Val Ser Ile
 340 345 350

Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg Ile
 355 360 365

Gln Asp Arg Ala Leu Val Ile Ala Ala Gln Leu Ser Ser Arg Tyr Ile
 370 375 380

Met Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala
 385 390 395 400

Cys Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp
 405 410 415

Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala Leu
 420 425 430

Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Val Asp Val Arg
 435 440 445

Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Gln Met Lys
 450 455 460

Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Ser Leu Lys Gln
 465 470 475 480

Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln Glu Ala Glu Arg Arg Met
 485 490 495

Asp Leu Ala Arg Val Ala Asp Leu Arg Tyr Gly Ala Leu Gln Glu Val
 500 505 510

Asp Ala Ala Ile Ala Lys Leu Glu Gly Glu Thr Gly Glu Asn Leu Met
 515 520 525

Leu Thr Glu Thr Val Gly Pro Asp Gln Ile Ala Glu Val Val Ser Arg
 530 535 540

Trp Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Glu Lys Ala Arg
 545 550 555 560

Leu Ile Gly Leu Ala Asp Arg Leu His Gln Arg Val Val Gly Gln Tyr
 565 570 575

Glu Ala Val Asn Ala Val Gly Glu Ala Val Leu Arg Ser Arg Ala Gly
 580 585 590

Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro

595	600	605
Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu 610 615 620		
Phe Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr Met 625 630 635 640		
Glu Gln His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val 645 650 655		
Gly His Glu Glu Gly Gly Gln Leu Thr Glu Gln Val Arg Arg Arg Pro 660 665 670		
Tyr Ser Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala Val 675 680 685		
Phe Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly 690 695 700		
Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr Ser 705 710 715 720		
Asn Leu Gly Ala Glu His Leu Leu Ala Gly Met Val Gly Asn Ser Met 725 730 735		
Lys Val Ala Arg Asp Leu Val Met Gln Glu Val Arg Arg His Phe Arg 740 745 750		
Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Ile Phe Asp Pro Leu 755 760 765		
Ser His Glu Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys Asp Val 770 775 780		
Ala Val Arg Leu Ala Glu Arg Gly Val Ala Leu Ala Val Thr Asp Ala 785 790 795 800		
Ala Leu Asp Val Ile Leu Ser Leu Ser Tyr Asp Pro Val Tyr Gly Ala 805 810 815		
Arg Pro Ile Arg Arg Trp Ile Glu Lys Arg Ile Val Thr Glu Leu Ser 820 825 830		
Lys Met Leu Ile Arg Glu Glu Ile Asp Glu Asn Ser Thr Val Tyr Ile 835 840 845		

Asp Ala Ala Pro Ser Lys Asp Glu Leu Thr Tyr Gly Val Asp Lys His
 850 855 860

Gly Gly Leu Val Asn Ala Arg Thr Gly His Lys Ser Asp Ile Leu Ile
 865 870 875 880

Gln Val Pro Ser Gly Ala Val Gly Gly Asp Ala Ala His Ala Val Lys
 885 890 895

Lys Met Lys Ile Met Gln Asp Ser Gly Glu Val Asp Asp Met Glu Glu
 900 905 910

Glu

<210> 23
 <211> 909
 <212> PRT
 <213> Nicotiana tabacum

<400> 23

Met Asn Pro Glu Lys Phe Thr His Lys Thr Asn Glu Ala Leu Ala Gly
 1 5 10 15

Ala Leu Glu Leu Ala Leu Ser Ala Gly His Ala Gln Phe Thr Pro Leu
 20 25 30

His Met Ala Val Ala Leu Ile Ser Asp His Asn Gly Ile Phe Arg Gln
 35 40 45

Ala Ile Val Asn Ala Gly Gly Asn Glu Glu Val Ala Asn Ser Val Glu
 50 55 60

Arg Val Leu Asn Gln Ala Met Lys Lys Leu Pro Ser Gln Thr Pro Ala
 65 70 75 80

Pro Asp Glu Ile Pro Pro Ser Thr Ser Leu Ile Lys Val Leu Arg Arg
 85 90 95

Ala Gln Ser Ser Gln Lys Ser Arg Gly Asp Ser His Leu Ala Val Asp
 100 105 110

Gln Leu Ile Leu Gly Leu Leu Glu Asp Ser Gln Ile Gly Asp Leu Leu
 115 120 125

Lys Glu Ala Gly Val Ser Ala Ser Arg Val Lys Ser Glu Val Glu Lys
 130 135 140

Leu Arg Gly Lys Glu Gly Arg Lys Val Glu Ser Ala Ser Gly Asp Thr
 145 150 155 160

Thr Phe Gln Ala Leu Asn Thr Tyr Gly Arg Asp Leu Val Glu Gln Ala
 165 170 175

Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg Val
 180 185 190

Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly
 195 200 205

Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln Arg
 210 215 220

Ile Val Arg Gly Asp Val Pro Ser Asn Leu Ala Asp Val Arg Leu Ile
 225 230 235 240

Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly Glu
 245 250 255

Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu Ala Glu
 260 265 270

Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly Ala
 275 280 285

Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro Met
 290 295 300

Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu Glu
 305 310 315 320

Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Gln
 325 330 335

Gln Val Tyr Val Ala Glu Pro Ser Val Ala Asp Thr Ile Ser Ile Leu
 340 345 350

Arg Gly Leu Lys Glu Arg Tyr Glu Gly His His Gly Val Lys Ile Gln
 355 360 365

Asp Arg Ala Leu Val Val Ala Ala Gln Leu Ser Ser Arg Tyr Ile Thr

370

375

380

Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala Cys
 385 390 395 400

Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp Asn
 405 410 415

Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala Leu Glu
 420 425 430

Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Ile Glu Val Arg Lys
 435 440 445

Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Met Met Arg Tyr
 450 455 460

Lys Lys Glu Lys Glu Arg Ile Asp Glu Leu Arg Arg Leu Lys Gln Lys
 465 470 475 480

Arg Asp Glu Leu Ile Tyr Ala Leu Gln Glu Ala Glu Arg Arg Tyr Asp
 485 490 495

Leu Ala Arg Ala Ala Asp Leu Arg Tyr Gly Ala Ile Gln Glu Val Glu
 500 505 510

Thr Ala Ile Ala Asn Leu Glu Ser Thr Ser Ala Glu Ser Thr Met Leu
 515 520 525

Thr Glu Thr Val Gly Pro Asp Gln Ile Ala Glu Val Val Ser Arg Trp
 530 535 540

Thr Gly Ile Pro Val Ser Arg Leu Gly Gln Asn Glu Lys Glu Lys Leu
 545 550 555 560

Ile Gly Leu Gly Asp Arg Leu His Gln Arg Val Val Gly Gln Asp His
 565 570 575

Ala Val Arg Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala Gly Leu
 580 585 590

Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr
 595 600 605

Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu Phe
 610 615 620

Asp Asp Asp Lys Leu Met Ile Arg Ile Asp Met Ser Glu Tyr Met Glu
 625 630 635 640

Gln His Ser Val Ser Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly
 645 650 655

His Asp Glu Gly Gly Gln Leu Thr Glu Ala Val Arg Arg Arg Pro Tyr
 660 665 670

Ser Val Val Leu Phe Asp Glu Val Glu Lys Ala His Pro Ala Val Phe
 675 680 685

Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly Gln
 690 695 700

Gly Arg Thr Val Asp Phe Thr Asn Ser Val Ile Ile Met Thr Ser Asn
 705 710 715 720

Leu Gly Ala Glu Tyr Leu Leu Ser Gly Leu Met Gly Lys Cys Thr Met
 725 730 735

Glu Thr Ala Arg Glu Met Val Met Gln Glu Val Arg Lys Gln Phe Lys
 740 745 750

Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Val Phe Asp Pro Leu
 755 760 765

Ser His Lys Gln Leu Arg Gln Val Cys Arg Tyr Gln Met Lys Asp Val
 770 775 780

Ala Leu Arg Leu Ala Glu Arg Gly Ile Ala Leu Gly Val Thr Glu Ala
 785 790 795 800

Ala Pro Asp Val Ile Leu Thr Glu Ser Tyr Asp Pro Val Tyr Gly Ala
 805 810 815

Arg Pro Ile Arg Arg Trp Leu Glu Arg Lys Val Val Thr Glu Leu Ser
 820 825 830

Lys Met Leu Val Lys Glu Glu Ile Asp Glu Asn Ser Thr Val Tyr Ile
 835 840 845

Asp Ala Gly Val Ser Gly Lys Asp Leu Thr Tyr Arg Val Glu Lys Asn
 850 855 860

Gly Gly Leu Val Asn Ala Ala Thr Gly Gln Lys Ser Asp Ile Leu Ile
 865 870 875 880

Gln Leu Pro Asn Gly Pro Arg Ser Asp Ala Val Gln Ala Val Lys Lys
 885 890 895

Met Arg Ile Glu Glu Ile Glu Asp Asp Glu Met Glu Asp
 900 905

<210> 24

<211> 668

<212> PRT

<213> Arabidopsis thaliana

<400> 24

Met Asn Asp Leu Lys Phe Asp Pro Asn Val Lys Leu Ile Leu Ala Ser
 1 5 10 15

Ala Arg Ser His Ala Met Ser Leu Ser His Gly Gln Val Thr Pro Leu
 20 25 30

His Leu Gly Val Thr Leu Ile Ser Asp Leu Thr Ser Val Phe Tyr Arg
 35 40 45

Ala Ile Thr Ser Ala Gly Asp Gly Asp Ile Ser Ala Gln Ser Val Val
 50 55 60

Asn Val Ile Asn Gln Ser Leu Tyr Lys Leu Thr Lys Arg Asn Leu Gly
 65 70 75 80

Asp Thr Lys Val Gly Val Ala Val Leu Val Ile Ser Leu Leu Glu Asp
 85 90 95

Ser Gln Ile Ser Asp Val Leu Lys Glu Ala Gly Val Val Pro Glu Lys
 100 105 110

Val Lys Ser Glu Val Glu Lys Leu Arg Gly Glu Val Ile Leu Arg Ala
 115 120 125

Leu Lys Thr Tyr Gly Thr Asp Leu Val Glu Gln Ala Gly Lys Leu Asp
 130 135 140

Pro Val Ile Gly Arg His Arg Glu Ile Arg Arg Val Ile Glu Val Leu
 145 150 155 160

Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu Pro Gly Val

165

170

175

Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln Arg Ile Leu Lys Gly
180 185 190

Asp Val Pro Ile Asn Leu Thr Gly Val Lys Leu Ile Ser Leu Glu Phe
195 200 205

Gly Ala Met Val Ala Gly Thr Thr Leu Arg Gly Gln Phe Glu Glu Arg
210 215 220

Leu Lys Ser Val Leu Lys Ala Val Glu Glu Ala Gln Gly Lys Val Val
225 230 235 240

Leu Phe Ile Asp Glu Ile His Met Ala Leu Gly Ala Cys Lys Ala Ser
245 250 255

Gly Ser Thr Asp Ala Ala Lys Leu Leu Lys Pro Met Leu Ala Arg Gly
260 265 270

Gln Leu Arg Phe Ile Gly Ala Thr Thr Leu Glu Glu Tyr Arg Thr His
275 280 285

Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Gln Gln Val Phe Val
290 295 300

Ala Glu Pro Ser Val Pro Asp Thr Ile Ser Ile Leu Arg Gly Leu Lys
305 310 315 320

Glu Lys Tyr Glu Gly His His Gly Val Arg Ile Gln Asp Arg Ala Leu
325 330 335

Val Leu Ser Ala Gln Leu Ser Glu Arg Tyr Ile Thr Gly Arg Arg Leu
340 345 350

Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ser Cys Ala His Val Lys
355 360 365

Ala Gln Leu Asp Ile Gln Pro Glu Glu Ile Asp Ser Leu Glu Arg Lys
370 375 380

Val Met Gln Leu Glu Ile Glu Ile His Ala Leu Glu Lys Glu Lys Asp
385 390 395 400

Asp Lys Ala Ser Glu Ala Arg Leu Ser Glu Val Arg Lys Glu Leu Asp
405 410 415

Asp Leu Arg Asp Lys Leu Glu Pro Leu Thr Ile Lys Tyr Lys Lys Glu
 420 425 430

Lys Lys Ile Ile Asn Glu Thr Arg Arg Leu Lys Gln Asn Arg Asp Asp
 435 440 445

Leu Met Ile Ala Leu Gln Glu Ala Glu Arg Gln His Asp Val Pro Lys
 450 455 460

Ala Ala Val Leu Lys Tyr Gly Ala Ile Gln Glu Val Glu Ser Ala Ile
 465 470 475 480

Ala Lys Leu Glu Lys Ser Ala Lys Asp Asn Val Met Leu Thr Glu Thr
 485 490 495

Val Gly Pro Glu Asn Ile Ala Glu Val Val Ser Arg Trp Thr Gly Ile
 500 505 510

Pro Val Thr Arg Leu Asp Gln Asn Glu Lys Lys Arg Leu Ile Ser Leu
 515 520 525

Ala Asp Lys Leu His Glu Arg Val Val Gly Gln Asp Glu Ala Val Lys
 530 535 540

Ala Val Ala Ala Ala Ile Leu Arg Ser Arg Val Gly Leu Gly Arg Pro
 545 550 555 560

Gln Gln Pro Ser Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly Val Gly
 565 570 575

Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu Phe Asp Ser Glu
 580 585 590

Asn Leu Leu Val Arg Leu Asp Met Ser Glu Tyr Asn Asp Lys Phe Ser
 595 600 605

Val Asn Lys Leu Ile Gly Ala Pro Pro Gly Tyr Tyr Ile Gly His Glu
 610 615 620

Glu Gly Gly Gln Leu Thr Glu Pro Val Arg Arg Arg Pro Tyr Cys Val
 625 630 635 640

Val Leu Phe Asp Glu Val Glu Lys Thr His Val Thr Val Phe Asn Thr
 645 650 655

Leu Leu Gln Val Leu Glu Asp Gly Arg Leu Thr Asp
660 665

<210> 25
<211> 867
<212> PRT
<213> Leishmania donovani

<400> 25

Met Thr Thr Gln Gln Pro Glu Trp Thr Gln Ala Ala Ser Asp Leu Met
1 5 10 15

Ala Arg Thr Ala Ala Leu Ala Arg Lys Lys Ala Asn Gly Tyr Leu Asp
20 25 30

Pro Val His Leu Ala Tyr Val Met Phe Glu Asp Glu Asn Ser Leu Ala
35 40 45

Ser Arg Val Val Arg Lys Leu Gly Ala Ala Ser Val Lys Asp Gly Leu
50 55 60

Glu Ala Arg Val Asp Ala Ile Pro Thr Gln Met Pro Ala Pro Thr Gln
65 70 75 80

Pro Arg Pro Asn Ser Asp Met Met Arg Val Met Asn Thr Ala Glu Gln
85 90 95

Glu Arg Val Ala Leu Gly Asp Thr Leu Met Ala Ala Asp His Phe Leu
100 105 110

Leu Ala Leu His Glu Ser Lys Glu Val Gly Arg Ile Leu Asp Ala Ala
115 120 125

Gly Ala Gly Lys Lys Ala Ile Arg Ala Thr Leu Leu Glu Met Arg Lys
130 135 140

Gly Lys Lys Ile Asn Ser Asp Phe Gln Asp Asp Asn Tyr Glu Ser Leu
145 150 155 160

Asn Lys Tyr Ala Val Asp Leu Cys Lys Gln Ala Glu Asp Gly Lys Leu
165 170 175

Asp Pro Val Ile Gly Arg Ala Asp Glu Ile Leu Arg Thr Ile Arg Val
180 185 190

Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu Pro Gly

195	200	205
Val Gly Lys Thr Ala Ile	Val Glu Gly Ile Ala Gln Gln Val Val Arg	
210	215	220
Gly Asp Val Pro Asp Thr Leu Ser Gly Ile Arg Ile Phe Ser Leu Asp		
225	230	235 240
Met Gly Ala Leu Ile Ala Gly Ala Lys Tyr Arg Gly Glu Phe Glu Glu		
	245	250 255
Arg Leu Lys Ala Val Leu Asn Glu Val Lys Glu Ser Asp Asn Lys Ile		
	260	265 270
Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly Ala Gly Lys Ser		
	275	280 285
Asp Gly Ala Met Asp Ala Ala Asn Leu Leu Lys Pro Leu Leu Ala Arg		
	290	295 300
Gly Glu Leu Arg Thr Ile Gly Ala Thr Thr Leu Glu Glu Tyr Arg Gln		
305	310	315 320
Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Met Pro Val Gln		
	325	330 335
Val Asn Glu Pro Ser Val Glu Glu Cys Thr Ser Ile Leu Arg Gly Leu		
	340	345 350
Lys Asp Arg Tyr Glu Gln His His Gly Val Gln Ile Thr Asp Lys Ala		
	355	360 365
Val Val Val Ala Ala Gln Leu Ala Gly Arg Tyr Ile Thr Asn Arg Phe		
	370	375 380
Leu Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Cys Ala Asn Val		
385	390	395 400
Arg Val Thr Leu Ser Ser Arg Pro Ala Glu Ile Asp Ala Leu Glu Arg		
	405	410 415
Lys Lys Arg Gln Leu Glu Ile Glu Glu Lys Ala Leu Gln Arg Asp Lys		
	420	425 430
Asp Ala Ser Ala Lys Glu Arg Leu Lys Ala Val Lys Ala Glu Ile Gln		
	435	440 445

Lys Val Glu Glu Lys Leu Gly Pro Leu Leu Ala Lys Tyr Glu Gln Glu
 450 455 460

Arg Gly Arg Ile Asp Glu Leu Gln Ala Thr Gln Ala Lys Leu Asp Glu
 465 470 475 480

Lys Lys Val Lys Leu Glu Arg Ala Glu Arg Met Arg Asp Met Glu Thr
 485 490 495

Ala Ala Asp Leu Lys Tyr Asn Val Ile Pro Ile Leu Gln Asp Arg Ile
 500 505 510

Arg Ser Leu Lys Glu Glu Ile Glu Lys Gln Lys Ala Thr Met Leu His
 515 520 525

Gly Thr Val Thr Glu Thr Asp Ile Ala Thr Val Val Ser Arg Trp Thr
 530 535 540

Asn Ile Pro Val Thr Lys Leu Ser Gln Thr Glu Arg Glu Arg Leu Leu
 545 550 555 560

His Leu Ala Asp Gln Leu His Leu Arg Val Lys Gly Gln Asp Glu Ala
 565 570 575

Val Ser Arg Val Ala Glu Ala Ile Leu Arg Ser Arg Ala Gly Leu Ala
 580 585 590

Arg Ser Asp Arg Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly
 595 600 605

Val Gly Lys Thr Glu Leu Ser Lys Ala Val Ala Ser Lys Leu Phe Asp
 610 615 620

Asp Ala Lys Tyr Met Val Arg Leu Asp Met Ser Glu Tyr Met Glu Gln
 625 630 635 640

His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly His
 645 650 655

Glu Glu Gly Gly Gln Leu Thr Glu Pro Val Arg Arg Arg Pro Tyr Thr
 660 665 670

Val Val Leu Leu Asp Glu Val Glu Lys Ala His Pro Asn Val Phe Asn
 675 680 685

Val Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Ser His Gly
690 695 700

Arg Thr Val Asn Phe Cys Tyr Thr Ile Ile Ile Met Thr Ser Asn Leu
705 710 715 720

Gly Ala Gln Tyr Leu Gln Asn Met Asp Thr Ser Pro Lys Ala Tyr Glu
725 730 735

Val Ala Gln Thr Gln Val Met Gly Glu Val Arg Lys Phe Phe Arg Pro
740 745 750

Glu Phe Ile Asn Arg Leu Asp Asp Ile Ile Leu Phe Arg Ser Leu Gly
755 760 765

Leu Lys Glu Met Thr Gly Ile Ile Asp Leu Ile Thr Glu Glu Leu Tyr
770 775 780

Gly Arg Leu Lys Asp Gln Ser Ile Arg Val Ser Leu Thr Glu Glu Ala
785 790 795 800

Lys Asn Tyr Val Leu Glu Ser Ala Phe Asp Ala Asp Met Gly Ala Arg
805 810 815

Pro Leu Arg Arg Trp Val Glu Lys Asn Ile Thr Thr Glu Leu Ser Arg
820 825 830

Met Ile Ile Ser Gln Glu Leu Ser Pro Asn Ser Thr Val Lys Val Thr
835 840 845

Leu Ser Ser Asn His Lys Lys Leu Ser Phe Ser Val Lys Arg Thr Ala
850 855 860

Ala Gln Thr
865

<210> 26
<211> 867
<212> PRT
<213> Leishmania major

<400> 26

Met Thr Thr Gln Gln Pro Glu Trp Lys Gln Ala Ala Ser Asp Leu Met
1 5 10 15

Ala Arg Met Ala Ala Leu Ala Arg Lys Lys Ala Asn Gly Tyr Leu Asp

20

25

30

Pro Val His Leu Ala Tyr Val Met Phe Glu Asp Glu Asn Ser Leu Ala
35 40 45

Ser Arg Ala Val Arg Lys Leu Gly Ala Ala Ser Val Lys Asp Gly Leu
50 55 60

Glu Ala Arg Val Asp Ala Ile Pro Asn Gln Met Pro Ala Pro Thr Gln
65 70 75 80

Pro Arg Pro Asn Ser Asp Met Met Arg Val Met Asn Thr Ala Glu Gln
85 90 95

Glu Arg Ala Ala Leu Gly Asp Thr Leu Met Ala Ala Asp His Phe Leu
100 105 110

Leu Ala Leu His Glu Ser Lys Glu Val Gly Arg Ile Leu Asp Ala Ala
115 120 125

Gly Ala Gly Lys Lys Ala Ile Arg Ala Thr Leu Leu Glu Met Arg Lys
130 135 140

Gly Lys Lys Ile Thr Ser Asp Phe Gln Asp Asp Asn Tyr Glu Ser Leu
145 150 155 160

Asn Lys Tyr Ala Val Asp Leu Cys Lys Gln Ala Glu Asp Gly Lys Leu
165 170 175

Asp Pro Val Ile Gly Arg Ala Asp Glu Ile Leu Arg Thr Ile Arg Val
180 185 190

Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile Gly Glu Pro Gly
195 200 205

Val Gly Lys Thr Ala Ile Val Glu Gly Ile Ala Gln Gln Val Val Arg
210 215 220

Gly Asp Val Pro Asp Thr Leu Ser Gly Ile Arg Ile Phe Ser Leu Asp
225 230 235 240

Met Gly Ala Leu Ile Ala Gly Ala Lys Tyr Arg Gly Glu Phe Glu Glu
245 250 255

Arg Leu Lys Ala Val Leu Asn Glu Val Lys Glu Ser Asp Asn Lys Ile
260 265 270

Ile Leu Phe Ile Val Glu Ile His Leu Val Leu Gly Ala Gly Lys Ser
 275 280 285

Asp Gly Ala Met Asp Ala Ala Asn Leu Leu Lys Pro Leu Leu Ala Arg
 290 295 300

Gly Asp Val Arg Thr Ile Gly Ala Thr Thr Leu Glu Glu Tyr Arg Gln
 305 310 315 320

Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe Met Pro Val Gln
 325 330 335

Val His Glu Pro Ser Val Glu Glu Cys Thr Ser Ile Leu Arg Gly Leu
 340 345 350

Lys Asp Arg Tyr Glu Gln His His Gly Val Gln Ile Thr Asp Lys Ala
 355 360 365

Val Val Val Ala Ala Gln Leu Ala Gly Arg Tyr Ile Thr Asn Arg Phe
 370 375 380

Leu Pro Asp Lys Ala Ile Asp Leu Ile Asp Glu Ala Cys Ala Asn Val
 385 390 395 400

Arg Val Thr Leu Ser Ser Arg Pro Ala Glu Ile Asp Ala Leu Glu Arg
 405 410 415

Lys Lys Arg Gln Leu Glu Ile Glu Glu Arg Ala Leu Gln Arg Asp Lys
 420 425 430

Asp Ala Ser Ala Lys Glu Arg Leu Lys Ala Val Lys Ala Glu Ile Gln
 435 440 445

Lys Val Glu Glu Lys Leu Gly Pro Leu Leu Ala Lys Tyr Glu Gln Glu
 450 455 460

Arg Gly Arg Ile Asp Glu Leu Gln Ala Thr Gln Ala Lys Leu Asp Glu
 465 470 475 480

Lys Lys Val Lys Leu Glu Arg Ala Glu Arg Met Arg Asp Met Glu Thr
 485 490 495

Ala Ala Asp Leu Lys Tyr Arg Val Ile Pro Ile Leu Gln Asp Arg Ile
 500 505 510

Arg Ser Leu Lys Glu Ala Ile Glu Lys Gln Lys Ala Thr Met Leu Gln
515 520 525

Gly Thr Val Thr Gly Thr Asp Ile Ala Thr Val Val Ser Arg Trp Thr
530 535 540

Asn Ile Pro Val Thr Lys Leu Ser Gln Thr Glu Arg Glu Arg Leu Leu
545 550 555 560

His Leu Ala Asp Gln Leu His Leu Arg Val Lys Gly Gln Asp Glu Ala
565 570 575

Val Ser Arg Val Ala Glu Ala Ile Leu Arg Ser Arg Ala Gly Leu Ala
580 585 590

Arg Ser Asp Arg Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly
595 600 605

Val Gly Lys Thr Glu Leu Ser Lys Ala Val Ala Ser Glu Leu Phe Asp
610 615 620

Asp Ala Lys Tyr Met Val Arg Leu Asp Met Ser Glu Tyr Met Glu Gln
625 630 635 640

His Ser Val Ala Arg Leu Ile Gly Thr Pro Pro Gly Tyr Val Gly His
645 650 655

Glu Glu Gly Gly Gln Leu Thr Glu Pro Val Arg Arg Arg Pro Tyr Thr
660 665 670

Val Val Leu Leu Asp Glu Val Glu Lys Ala His Pro Asn Val Phe Asn
675 680 685

Val Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Ser His Gly
690 695 700

Arg Thr Val Asp Phe Cys Asn Thr Ile Ile Ile Met Thr Ser Asn Leu
705 710 715 720

Gly Ala Gln Tyr Leu Gln Asn Met Asp Thr Ser Pro Lys Pro Tyr Glu
725 730 735

Val Ala Gln Ala Gln Val Met Gly Glu Val Arg Lys Phe Phe Arg Pro
740 745 750

Glu Phe Ile Asn Arg Leu Asp Asp Ile Ile Leu Phe Arg Ser Leu Gly
755 760 765

Leu Lys Glu Met Thr Gly Ile Ile Asp Leu Ile Thr Glu Glu Leu Asn
770 775 780

Gly Arg Leu Lys Asp Gln Ser Ile Arg Val Ser Leu Thr Glu Glu Ala
785 790 795 800

Lys Gln Tyr Val Leu Glu Ser Ala Phe Asp Ala Asp Met Gly Ala Arg
805 810 815

Pro Leu Arg Arg Trp Val Glu Lys Asn Ile Thr Thr Glu Leu Ser Arg
820 825 830

Met Ile Ile Ser Gln Glu Leu Ser Pro Asn Ser Thr Val Lys Val Thr
835 840 845

Leu Ser Ser Asn His Lys Lys Leu Ser Phe Ser Val Lys Arg Thr Ala
850 855 860

Ala Gln Thr
865

<210> 27
<211> 912
<212> PRT
<213> Zea mays

<400> 27

Met Asn Pro Asp Asn Phe Thr His Lys Thr Asn Glu Ala Ile Val Gly
1 5 10 15

Ala His Glu Ile Ala Val Glu Ala Gly His Ala Gln Leu Thr Pro Leu
20 25 30

His Leu Ala Ala Val Leu Ala Ala Asp Lys Gly Gly Ile Leu Arg Gln
35 40 45

Ala Ile Thr Gly Ala Ser Gly Gly Asp Gly Ala Ala Gly Asp Ser Phe
50 55 60

Glu Arg Val Leu Asn Asn Ser Leu Lys Lys Leu Pro Ser Gln Ser Pro
65 70 75 80

Pro Pro Asp Ser Val Pro Ala Ser Thr Ala Leu Ile Lys Val Ile Arg
85 90 95

Arg Ala Gln Ser Ala Gln Lys Lys Arg Gly Asp Ser His Leu Ala Val
 100 105 110
 Asp Gln Leu Leu Leu Gly Leu Leu Glu Asp Ser Gln Ile Ser Asp Cys
 115 120 125
 Leu Lys Glu Ala Gly Val Ser Ala Ala Arg Val Arg Ala Glu Leu Glu
 130 135 140
 Lys Leu Arg Gly Gly Glu Gly Arg Arg Val Glu Ser Ala Ser Gly Asp
 145 150 155 160
 Thr Asn Phe Gln Ala Leu Lys Thr Tyr Gly Arg Asp Leu Val Glu Gln
 165 170 175
 Ala Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu Ile Arg Arg
 180 185 190
 Val Val Arg Ile Leu Ser Arg Arg Thr Lys Asn Asn Pro Val Leu Ile
 195 200 205
 Gly Glu Pro Gly Val Gly Lys Thr Ala Val Val Glu Gly Leu Ala Gln
 210 215 220
 Arg Ile Val Arg Gly Asp Val Pro Ser Asn Leu Leu Asp Val Arg Leu
 225 230 235 240
 Ile Ala Leu Asp Met Gly Ala Leu Val Ala Gly Ala Lys Tyr Arg Gly
 245 250 255
 Glu Phe Glu Glu Arg Leu Lys Ala Val Leu Lys Glu Val Glu Glu Ala
 260 265 270
 Glu Gly Lys Val Ile Leu Phe Ile Asp Glu Ile His Leu Val Leu Gly
 275 280 285
 Ala Gly Arg Thr Glu Gly Ser Met Asp Ala Ala Asn Leu Phe Lys Pro
 290 295 300
 Met Leu Ala Arg Gly Gln Leu Arg Cys Ile Gly Ala Thr Thr Leu Glu
 305 310 315 320
 Glu Tyr Arg Lys Tyr Val Glu Lys Asp Ala Ala Phe Glu Arg Arg Phe
 325 330 335

Gln Gln Val Phe Val Ala Glu Pro Ser Val Pro Asp Thr Val Ser Ile
 340 345 350

Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly His His Gly Val Arg Ile
 355 360 365

Gln Asp Arg Ala Leu Val Val Ala Ala Gln Leu Ser Ala Arg Tyr Ile
 370 375 380

Met Gly Arg His Leu Pro Asp Lys Ala Ile Asp Leu Val Asp Glu Ala
 385 390 395 400

Cys Ala Asn Val Arg Val Gln Leu Asp Ser Gln Pro Glu Glu Ile Asp
 405 410 415

Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu Val Glu Leu His Ala Leu
 420 425 430

Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala Arg Leu Ile Glu Val Arg
 435 440 445

Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu Gln Pro Leu Thr Met Lys
 450 455 460

Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu Ile Arg Lys Leu Lys Gln
 465 470 475 480

Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln Glu Ala Glu Arg Arg Met
 485 490 495

Asp Leu Ala Arg Val Ala Asp Leu Lys Tyr Gly Ala Leu Gln Glu Ile
 500 505 510

Asp Ala Ala Ile Ser Lys Leu Glu Ser Glu Thr Gly Glu Asn Leu Met
 515 520 525

Leu Thr Glu Thr Val Gly Pro Glu Gln Ile Ala Glu Val Val Ser Arg
 530 535 540

Trp Thr Gly Ile Pro Val Thr Arg Leu Gly Gln Asn Asp Lys Glu Arg
 545 550 555 560

Leu Val Gly Leu Ala Asp Arg Leu His Gln Arg Val Val Gly Gln Thr
 565 570 575

Glu Ala Val Ser Ala Val Ala Glu Ala Val Leu Arg Ser Arg Ala Gly
 580 585 590

Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro
 595 600 605

Thr Gly Val Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Gln Leu
 610 615 620

Phe Asp Asp Glu Asn Leu Leu Val Arg Ile Asp Met Ser Glu Tyr Met
 625 630 635 640

Glu Gln His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val
 645 650 655

Gly His Glu Glu Gly Gly Gln Leu Thr Glu Gln Val Arg Arg Arg Pro
 660 665 670

Tyr Ser Val Ile Leu Phe Asp Glu Val Glu Lys Ala His Val Ala Val
 675 680 685

Phe Asn Thr Leu Leu Gln Val Leu Asp Asp Gly Arg Leu Thr Asp Gly
 690 695 700

Gln Gly Arg Thr Val Asp Phe Arg Asn Thr Val Ile Ile Met Thr Ser
 705 710 715 720

Asn Leu Gly Ala Glu His Leu Leu Ala Gly Met Val Gly Lys Asn Ser
 725 730 735

Met Lys Val Ala Arg Asp Leu Val Met Gln Glu Val Arg Arg His Phe
 740 745 750

Arg Pro Glu Leu Leu Asn Arg Leu Asp Glu Ile Val Ile Phe Asp Pro
 755 760 765

Leu Ser His Glu Gln Leu Arg Lys Val Ala Arg Leu Gln Met Lys Asp
 770 775 780

Val Ala Val Arg Leu Ala Glu Arg Gly Ile Ala Leu Ala Val Thr Asp
 785 790 795 800

Ala Ala Leu Asp Ile Ile Leu Ser Leu Ser Tyr Asp Pro Val Tyr Gly
 805 810 815

Ala Arg Pro Ile Arg Arg Trp Ile Glu Lys Arg Val Val Thr Gln Leu

820	825	830
Ser Lys Met Leu Ile Gln Glu Glu Ile Asp Glu Asn Cys Thr Val Tyr		
835	840	845
Ile Asp Ala Ala Pro Gly Lys Asp Glu Leu Val Tyr Arg Val Asp Arg		
850	855	860
Ser Gly Gly Leu Val Asn Ala Glu Thr Gly Met Lys Ser Asp Ile Leu		
865	870	875
		880
Ile Gln Val Pro Asn Ser Ser Thr Arg Ser Asp Ala Ala Gln Ala Val		
	885	890
		895
Lys Lys Met Arg Ile Met Glu Glu Asp Glu Asp Gly Met Asp Glu Glu		
	900	905
		910
<210> 28		
<211> 582		
<212> PRT		
<213> Zea mays		
<400> 28		
Ala Phe Glu Arg Arg Phe Gln Gln Val Phe Val Ala Glu Pro Ser Val		
1	5	10
		15
Pro Asp Thr Val Ser Ile Leu Arg Gly Leu Lys Glu Lys Tyr Glu Gly		
	20	25
		30
His His Gly Val Arg Ile Gln Asp Arg Ala Leu Val Val Ala Ala Gln		
35	40	45
Leu Ser Ala Arg Tyr Ile Met Gly Arg His Leu Pro Asp Lys Ala Ile		
50	55	60
Asp Leu Val Asp Glu Ala Cys Ala Asn Val Arg Val Gln Leu Asp Ser		
65	70	75
		80
Gln Pro Glu Glu Ile Asp Asn Leu Glu Arg Lys Arg Ile Gln Leu Glu		
85	90	95
Val Glu Leu His Ala Leu Glu Lys Glu Lys Asp Lys Ala Ser Lys Ala		
100	105	110
Arg Leu Ile Glu Val Arg Lys Glu Leu Asp Asp Leu Arg Asp Lys Leu		
115	120	125

Gln Pro Leu Thr Met Lys Tyr Arg Lys Glu Lys Glu Arg Ile Asp Glu
 130 135 140

Ile Arg Lys Leu Lys Gln Arg Arg Glu Glu Leu Gln Phe Thr Leu Gln
 145 150 155 160

Glu Ala Glu Arg Arg Met Asp Leu Ala Arg Val Ala Asp Leu Lys Tyr
 165 170 175

Gly Ala Leu Gln Glu Ile Asp Ala Ala Ile Ser Lys Leu Glu Ser Glu
 180 185 190

Thr Gly Glu Asn Leu Met Leu Thr Glu Thr Val Gly Pro Glu Gln Ile
 195 200 205

Ala Glu Val Val Ser Arg Trp Thr Gly Ile Pro Val Thr Arg Leu Gly
 210 215 220

Gln Asn Asp Lys Glu Arg Leu Val Gly Leu Ala Asp Arg Leu His Gln
 225 230 235 240

Arg Val Val Gly Gln Thr Glu Ala Val Ser Ala Val Ala Glu Ala Val
 245 250 255

Leu Arg Ser Arg Ala Gly Leu Gly Arg Pro Gln Gln Pro Thr Gly Ser
 260 265 270

Phe Leu Phe Leu Gly Pro Thr Gly Val Gly Lys Thr Glu Leu Ala Lys
 275 280 285

Ala Leu Ala Glu Gln Leu Phe Asp Asp Glu Asn Leu Leu Val Arg Ile
 290 295 300

Asp Met Ser Glu Tyr Met Glu Gln His Ser Val Ala Arg Leu Ile Gly
 305 310 315 320

Ala Pro Pro Gly Tyr Val Gly His Glu Glu Gly Gly Gln Leu Thr Glu
 325 330 335

Gln Val Arg Arg Arg Pro Tyr Ser Val Ile Leu Phe Asp Glu Val Glu
 340 345 350

Lys Ala His Val Ala Val Phe Asn Thr Leu Leu Gln Val Leu Asp Asp
 355 360 365

Gly Arg Leu Thr Asp Gly Gln Gly Arg Thr Val Asp Phe Arg Asn Thr
 370 375 380

Val Ile Ile Met Thr Ser Asn Leu Gly Ala Glu His Leu Leu Ala Gly
 385 390 395 400

Met Val Gly Lys Asn Ser Met Lys Val Ala Arg Asp Leu Val Met Gln
 405 410 415

Glu Val Arg Arg His Phe Arg Pro Glu Leu Leu Asn Arg Leu Asp Glu
 420 425 430

Ile Val Ile Phe Asp Pro Leu Ser His Glu Gln Leu Arg Lys Val Ala
 435 440 445

Arg Leu Gln Met Lys Asp Val Ala Val Arg Leu Ala Glu Arg Gly Ile
 450 455 460

Ala Leu Ala Val Thr Asp Ala Ala Leu Asp Ile Ile Leu Ser Leu Ser
 465 470 475 480

Tyr Asp Pro Val Tyr Gly Ala Arg Pro Ile Arg Arg Trp Ile Glu Lys
 485 490 495

Arg Val Val Thr Gln Leu Ser Lys Met Leu Ile Gln Glu Glu Ile Asp
 500 505 510

Glu Asn Cys Thr Val Tyr Ile Asp Ala Ala Pro Gly Lys Asp Glu Leu
 515 520 525

Val Tyr Arg Val Asp Arg Ser Gly Gly Leu Val Asn Ala Glu Thr Gly
 530 535 540

Met Lys Ser Asp Ile Leu Ile Gln Val Pro Thr Ser Ser Thr Arg Ser
 545 550 555 560

Asp Ala Ala Gln Ala Val Lys Lys Met Arg Ile Met Glu Glu Asp Glu
 565 570 575

Asp Gly Met Asp Glu Glu
 580

<210> 29
 <211> 977
 <212> PRT
 <213> Phaseolus lunatus

<400> 29

Met Ala Thr Arg Arg Thr Pro Thr Leu Ala Lys Ser Leu Phe Ala Thr
1 5 10 15

Val Thr Ala Ser Arg Thr Ser Arg Ser Arg Ser Ala Arg Arg Leu Phe
20 25 30

Ser Ala Ile Thr Arg Ala Ser Glu Thr Ser Pro Asn Val Leu Ser Arg
35 40 45

Ser Gln Val Val Asp Ala Leu Ala Ala Asn Asn Val Ala Ser Ala Lys
50 55 60

Phe Leu Ser Leu Ser Phe Thr Arg Ser Phe His Ala Thr Asn Pro Ser
65 70 75 80

Leu Arg Ser Ala Ala Ser Ser Gln Val Ala Gln Thr Glu Phe Thr Asp
85 90 95

Met Ala Trp Glu Gly Ile Leu Gly Ala Val Asp Ala Ala Arg Ile Ser
100 105 110

Lys Gln Gln Ile Val Glu Ser Glu His Leu Met Lys Ala Leu Leu Glu
115 120 125

Gln Lys Asp Gly Leu Ala Arg Arg Val Phe Thr Lys Thr Gly Leu Asp
130 135 140

Asn Thr Ser Val Leu Gln Ala Thr Asp Asp Phe Ile Pro Lys Gln Pro
145 150 155 160

Lys Val Thr Gly Asp Thr Thr Gly Pro Val Ile Gly Ser His Leu Ser
165 170 175

Ser Leu Leu Asp Asn Ala Arg Lys Tyr Lys Lys Glu Met Gly Asp Glu
180 185 190

Tyr Val Ser Val Glu His Leu Leu Leu Ala Phe His Ser Asp Lys Thr
195 200 205

Phe Gly Gln Gln Leu Phe Lys Asn Leu Gln Leu Ser Gly Ile Thr Leu
210 215 220

Lys Asp Ala Val Gln Ala Val Arg Gly Ser Gln Arg Val Thr Asp Gln
225 230 235 240

Asn Pro Glu Gly Lys Tyr Glu Ala Leu Asp Lys Tyr Gly Asn Asp Leu
 245 250 255

Thr Glu Leu Ala Lys Arg Gly Lys Leu Asp Pro Val Ile Gly Arg Asp
 260 265 270

Asp Glu Ile Arg Arg Cys Ile Gln Ile Leu Ser Arg Arg Thr Lys Asn
 275 280 285

Asn Pro Val Ile Ile Gly Glu Pro Gly Val Gly Lys Thr Ala Ile Ala
 290 295 300

Glu Gly Leu Ala Gln Arg Ile Val Arg Gly Asp Val Pro Glu Pro Leu
 305 310 315 320

Met Asn Arg Lys Leu Ile Ser Leu Asp Met Gly Ser Leu Leu Ala Gly
 325 330 335

Ala Lys Tyr Arg Gly Asp Phe Glu Glu Arg Leu Lys Ala Val Leu Lys
 340 345 350

Glu Val Thr Ala Ser Asn Gly Gln Ile Ile Leu Phe Ile Asp Glu Ile
 355 360 365

His Thr Val Val Gly Ala Gly Ala Thr Ser Gly Ala Met Asp Ala Gly
 370 375 380

Asn Leu Leu Lys Pro Met Leu Gly Arg Gly Glu Leu Arg Cys Ile Gly
 385 390 395 400

Ala Thr Thr Leu Asn Glu Tyr Arg Lys Tyr Ile Glu Lys Asp Pro Ala
 405 410 415

Leu Glu Arg Arg Phe Gln Gln Val Phe Cys Ser Gln Pro Ser Val Glu
 420 425 430

Asp Thr Ile Ser Ile Leu Arg Gly Leu Arg Glu Arg Tyr Glu Leu His
 435 440 445

His Gly Val Lys Ile Ser Asp Ser Ala Leu Val Ser Ala Ala Val Leu
 450 455 460

Ala Asp Arg Tyr Ile Thr Glu Arg Phe Leu Pro Asp Lys Ala Ile Asp
 465 470 475 480

Leu Val Asp Glu Ala Ala Ala Lys Leu Lys Met Glu Ile Thr Ser Lys
 485 490 495

Pro Thr Glu Leu Asp Glu Ile Asp Arg Ala Ile Leu Lys Leu Glu Met
 500 505 510

Glu Lys Leu Ser Leu Lys Asn Asp Thr Asp Lys Ala Ser Lys Glu Arg
 515 520 525

Leu Ser Lys Leu Glu Asn Asp Leu Ser Leu Leu Lys Gln Lys Gln Lys
 530 535 540

Glu Leu Ala Glu Gln Trp Asp Asn Glu Lys Val Phe Met Thr Arg Ile
 545 550 555 560

Arg Ser Ile Lys Glu Glu Ile Asp Arg Val Asn Leu Glu Met Glu Ala
 565 570 575

Ala Glu Arg Asp Tyr Asp Leu Asn Arg Ala Ala Glu Leu Lys Tyr Gly
 580 585 590

Thr Leu Met Ser Leu Gln Arg Gln Leu Glu Glu Ala Glu Lys Asn Leu
 595 600 605

Thr Asp Phe Arg Lys Ser Gly Lys Ser Leu Leu Arg Arg Arg Gly His
 610 615 620

Tyr Leu Asp Ile Thr Glu Ile Val Ser Lys Trp Thr Gly Ile Pro Leu
 625 630 635 640

Ser Asn Leu Gln Gln Thr Glu Arg Glu Lys Leu Val Leu Leu Glu Gln
 645 650 655

Val Leu His Asn Arg Val Val Gly Gln Asp Ile Ala Val Lys Ser Val
 660 665 670

Ala Asp Ala Ile Arg Arg Ser Arg Ala Gly Leu Ser Asp Pro Asn Arg
 675 680 685

Pro Ile Ala Ser Phe Met Phe Met Gly Pro Thr Gly Val Gly Lys Thr
 690 695 700

Glu Leu Ala Lys Ala Leu Ala Gly Tyr Leu Phe Asn Thr Glu Asn Ala
 705 710 715 720

Leu Val Arg Ile Asp Met Ser Glu Tyr Met Glu Lys His Ala Val Ser

725

730

735

Arg Leu Val Gly Ala Pro Pro Gly Tyr Ile Gly Tyr Glu Glu Gly Gly
740 745 750

Gln Leu Thr Glu Val Val Arg Arg Arg Pro Tyr Ser Val Val Leu Phe
755 760 765

Asp Glu Ile Glu Lys Ala His His Asp Val Phe Asn Ile Leu Leu Gln
770 775 780

Leu Leu Asp Asp Gly Arg Ile Thr Asp Ser Gln Gly Arg Thr Val Ser
785 790 795 800

Phe Thr Asn Cys Val Val Ile Met Thr Ser Asn Ile Gly Ser His Phe
805 810 815

Ile Leu Glu Thr Leu Arg Ser Thr Gln Asp Asp Lys Thr Gly Val Tyr
820 825 830

Asp Gln Met Lys Arg Gln Val Val Glu Leu Ala Arg Gln Thr Phe Arg
835 840 845

Pro Glu Phe Met Asn Arg Ile Asp Glu Tyr Ile Val Phe Gln Pro Leu
850 855 860

Asp Ser Glu Gln Ile Ser Lys Ile Val Glu Leu Gln Met Glu Arg Val
865 870 875 880

Lys Asn Arg Leu Lys Gln Lys Lys Ile Asp Leu His Phe Thr Glu Glu
885 890 895

Ala Val Lys His Leu Gly Val Leu Gly Phe Asp Pro Asn Phe Gly Ala
900 905 910

Arg Pro Val Lys Arg Val Ile Gln Gln Leu Val Glu Asn Glu Ile Ala
915 920 925

Met Gly Val Leu Arg Gly Asp Phe Lys Glu Glu Asp Ser Ile Ile Val
930 935 940

Asp Ala Asp Val Ala Pro Ser Gly Lys Glu Arg Ser Leu Asn Arg Leu
945 950 955 960

Leu Ile Lys Lys Leu Asp Ser Pro Val Ala Asp Ala Met Val Val Asn
965 970 975

His

<210> 30
<211> 3105
<212> DNA
<213> *Arabidopsis thaliana*

<400> 30
aaagttatca attttacaac attaccgcta taatctgctt gatttctctgc aaaaagagaa 60
gacttttttac cgagaagaag tcctctggct cattgaagaa actcaacgaa acaaaccag 120
ttctcatata tcgttttaag ggattacaaa agctaatcga agatgaatcc agagaaattc 180
acacacaaga caaacgagac aattgctaca gctcatgagc tagctgtgaa tgcaggacat 240
gctcaattca ctcccttgca tttagctggt gctttgatct ctgatccac cggtatattt 300
cctcaagcaa tctctagtgc cgggtggcgag aacgcagctc aatctgctga aagagtgate 360
aatcaagcct tgaagaagct tccttcacaa tctcctccac ctgatgatat tccagcgagt 420
tctagtctta ttaaggtcat tcgtcgtgct caagctgctc agaagtcacg aggtgatact 480
catttggtg ttagaccagt gattatgggt cttcttgaag attctcaaat cagggatttg 540
ttgaacgaag tcggtgtagc gacggcgagg gtaaagtctg aggttgagaa gcttcgtggg 600
aaagaaggga agaaggtga gagtgcttca ggggacacaa attttcaagc tttaaagact 660
tatggaagag atttggtga gcaagcaggg aagcttgatc ctgtgattgg tcgtgatgag 720
gagattagaa gagtcgtgag gattctttcg aggagaacga agaacaatcc tgtgcttatt 780
ggagagccag gagttggtaa aacagctgtg gttgaaggtt tagcacaaag gattgtgaaa 840
ggagatgtgc ccaacagtct tactgatgtg agattaattt cgttggacat gggcgctta 900
gttgctggtg ctaaataccg aggagagttt gaagaaaggt tgaaatctgt tttgaaagaa 960
gttgaggacg ctgaaggcaa agtgattctc tttattgatg agattcattt ggttcttggt 1020
gctggcaaaa ctgaagggtc gatggatgca gctaactctg tcaagcccat gttagctaga 1080
gggcagcttc gatgcattgg tgctacaacg cttgaagaat acaggaaata tgttgagaaa 1140
gatgctgcct ttgagaggag gttccaacaa gtctatgttg cggagccaag tgtgcctgac 1200
accattagta tccttagagg actcaaggag aagtatgagg gacatcatgg tgtgcgaatc 1260
caagacagag ctcttataaa tgctgctcag ctgtctgctc gttacataac tggtcggcat 1320
ttaccggata aagcaattga tttggttgat gaggcttggt cgaatgtgag agtccagctt 1380
gatagtcaac ctgaagagat tgataacctt gaaaggaaga ggatgcagct ggaaattgaa 1440
cttcacgcct tggaaaggga gaaggataaa gccagcaaag ctcgacttat agaggtgcgg 1500

aaagagcttg atgacctgag agacaagctt cagcctctca cgatgaaata cagaaaggag 1560
 aaagagagaa ttgatgagat tcgaaggctt aaacagaaaa gagaagagct catgttttct 1620
 ttgcaggagg cagaacgaag atatgacctt gcaagagctg ctgatctaag atatggcgca 1680
 attcaagaag tggaatctgc aattgccccaa cttgaaggaa cttcttctga agagaatgtg 1740
 atgctcacag aaaacgttgg gcctgaacac attgctgagg ttgtgagccg ttggacaggg 1800
 attccagtga cgagacttgg ccaaaatgag aaggagaggt tgattggtct tgctgatagg 1860
 ttgcataagc gggtttgtgg acagaatcaa gcggtaaatg cagtttctga ggcaattcta 1920
 aggtcaaggg caggacttgg tagggcacia cagccaactg gatcattctt attccttgga 1980
 ccaactggtg ttggcaaaac tgagctcgcc aaggctcttg ctgagcagct gtttgatgat 2040
 gaaaacctct tagttcggat tgatatgtcg gaatatatgg aacaacactc tgtctctcgc 2100
 ctctattggg caccaccagg gtatgttggt cagcaggaag gtggacaact aactgaggct 2160
 gtgaggaggc gaccttattg tgtcactc tttgatgaag tggagaaggc tcatgttgct 2220
 gtcttcaaca ctctgctcca agttttggat gatggtcgat tgacagacgg gcaaggcagg 2280
 acagtcgatt tcaggaactc ggtgataatc atgacatcaa accttggtgc tgaacacctc 2340
 cttgcagggc taactgggaa agtaacaatg gaagtggccc gggactgtgt gatgcgggag 2400
 gtgaggaaac acttcagacc agagctcttg aacaggcttg acgagattgt ggtgttcgac 2460
 cccctttcac atgaccagtt gaggaagta gctcggcttc aaatgaaaga cgttgctgtc 2520
 cggcttgctg aaagaggagt tgctttggca gtcactgatg ctgcttttga ctatatcttg 2580
 gcagagagtt atgacctggg gtatggtgct aggcctataa ggagatggat ggagaagaag 2640
 gtggtgacag aactgtcaaa gatggttgtg cgtgaggaaa tcgatgaaaa ctccactgtt 2700
 tacatagatg caggcgctgg tgatcttgtg taccgggtag aaagtggagg tctagtggac 2760
 gcttcaacag gcaagaagtc agatgtgctg attcatattg ctaacgggcc aaagagaagt 2820
 gatgcagctc aggcggtgaa gaagatgagg atcaggagaa tagaagatga cgataatgag 2880
 gaaatgatcg aggattaaag tcttgacctc caacgtgtga gttcttttga ggtgttgtga 2940
 ttgtatgact tgagctttca tgctctgttt tggttttgac tcttttggta gactataatg 3000
 gtgtggaact gtaaaaaagt ctactttatt atgttttcgt atatgtaaat cattttacat 3060
 aagaaatcca ttgtacgtcc cataatcttt tggggttttt tcata 3105

<210> 31
 <211> 6376
 <212> DNA
 <213> *Arabidopsis thaliana*

<400> 31
tctagataaa gtgtatacaa taaaatgaga gcaataaggt tcattaatct ttatacttag 60
ctcctccaca ggacgatata ctttgagact gacacaaaac aaaataagga agaaagctta 120
cgtttttgaa ggaatcac aggaggacg cggaagcaag attggtctga gaggaat 180
gaggaagagg ggtaatcga gatgaaatg gagttgaag taatagagag aacgttgcgc 240
agatcgagga agaacagagg ataggatcaa cacaaggatc ttgtgaaat gaaatggct 300
gaggaaatga aggactatct gttaaataag atataatatt atttctgaaa tatttccatc 360
tgactccttt aatttataca agcctccttt ttgttacatc tattttcaga agatccaaat 420
aattgtttct tctattgtg tatttttgat atttaaactg aaatctttgg attttgatca 480
ataatagaca attagccaag ttcagttttc attaattaga ttataatct taattatctt 540
tagcattcgt ctaaaattaa ataatcggc aaaagaggag aaattaatct ttgttgttat 600
taattcaaag cgttacaat aaaaaaggaa attccacgct ggcaataaaa taagcgaaaa 660
ttccacgtga catctacctg tcggatcaaa aagagtggaa ttgacatttg tttctctcac 720
actctctctc gaattctctg gtagcttcta gttctatgca aaaaaacgac gatagtctctc 780
tatctttcca gatgaatctc ctccatata caaaagcagt catgcctcct cgctctctcg 840
caattcacia agtatccaaa catctaaagt tatcaatttt acaacattac cgctataatc 900
tgcttgattc tctgcaaaaa gagaagactt ttaccgaga agaagtcctc tggctcattg 960
aagaaactca acgaaacaaa ccagttctc atatatcgtt ttaaggtaaa tgatcgcgac 1020
aatcttgctc tcatttgtgt gtttttgtgt ttgtgattag ggtttcaaaa agatactgag 1080
attagttttt tttttttttt ttttttcagg gattacaaaa gctaactgaa gatgaatcca 1140
gagaaattca cacacaagac aaacgagaca attgctacag ctcatgagct agctgtgaat 1200
gcaggacatg ctcaattcac tcctttgcat ttagctggtg ctttgatctc tgatcccacc 1260
ggtatatttc ctcaagcaat ctctagtgcg ggtggcgaga acgcagctca atctgctgaa 1320
agagtgatca atcaagcctt gaagaagctt ccttcacaat ctctccacc tgatgatatt 1380
ccagcgagtt ctagtcttat taaggctcatt cgtcgtgctc aagctgctca gaagtcacga 1440
ggtgatactc atttggtgtg tgaccagttg attatgggtc ttcttgaaga ttctcaaatc 1500
agggatttgt tgaacgaagt cgggtgtagc acggcgaggg taaagtctga ggttgagaag 1560
cttcgtggga aagaaggaa gaaagttgag agtgcttcag gggacacaaa ttttcaagct 1620
ttaagactt atggaagaga ttggttgag caagcaggga agcttgatcc tgtgattggt 1680
cgtgatgagg agattagaag agtcgtgagg attctttcga ggagaacgaa gaacaatcct 1740
gtgcttattg gagagccagg agttggtaaa acagctgtgg ttgaaggttt agcacaagg 1800

attgtgaaag gagatgtgcc caacagtcctt actgatgtga gattaatttc gttggacatg	1860
gggtcgttag ttgctggtgc taaataccga ggagagtttg aagaaagggt gaaatctggt	1920
ttgaaagaag ttgaggacgc tgaaggcaaa gtgattctct ttattgatga gattcatttg	1980
gttcttggtg ctggcaaaac tgaagggtcg atggatgcag ctaatctggt caagcccatg	2040
ttagctagag ggcagcttcg atgcattggt gctacaacgc ttgaagaata caggaaatat	2100
gttgagaaag atgctgcctt tgagaggagg ttccaacaag tctatgttgc ggagccaagt	2160
gtgcctgaca ccattagtat ccttagagga ctcaaggaga agtatgagg acatcatggt	2220
gtgcgaatcc aagacagagc tcttataaat gctgctcagc tgtctgctcg ttacataact	2280
ggtatgttaa gattcttaat cctaagctga tgtttatggt ttcataatgt gttgttcttg	2340
acatgacatt tttgtggcga tttaggctcg catttaccgg ataaagcaat tgatttggtt	2400
gatgaggctt gtgcgaatgt gagagtccag cttgatagtc aacctgaaga gattgataac	2460
cttgaagga agaggatgca gctggaaatt gaacttcacg ccttggaag ggagaaggat	2520
aaagccagca aagctcgact tatagaggta tgatacagct ttcttttctc atcagtagat	2580
agcgcttcaa atataagact attgtgcttg ttctggaatt cttgattggt agcatctggt	2640
tttgcgatga gtctttgata taattttctc aaactatgaa tctgtaggtg cggaaagagc	2700
ttgatgacct gagagacaag cttcagcctc tcacgatgaa atacagaaag gagaaagaga	2760
gaattgatga gattcgaagg cttaaacaga aaagagaaga gctcatgttt tctttgcagg	2820
aggcagaacg aagatatgac cttgcaagag ctgctgatct aagatatggc gcaattcaag	2880
aagtggaatc tgcaattgcc caacttgaag gaacttcttc tgaagagaat gtgatgctca	2940
cagaaaacgt tgggcctgaa cacattgctg aggttgtag ccgttggaca gggattccag	3000
tgacgagact tggccaaaat gagaaggaga ggttgattgg tcttgctgat aggttgcata	3060
agcgggttgt gggacagaat caagcggtaa atgcagtttc tgaggcaatt ctaagggtcaa	3120
gggcaggact tggaggcca caacagccaa ctggatcatt cttattcctt ggaccaactg	3180
gtgttggtcaa aactgagctc gccaaaggctc ttgctgagca gctgtttgat gatgaaaacc	3240
tcttagttcg gattgatatg tcggaatata tggaacaaca ctctgtctct cgcctcattg	3300
gggcaccacc agggtaagta acttatcttt tagttttcaa tatcttctga ttatgaaaat	3360
attttttctt acttacacga ttactacact ttctcaggta tgttggtcac gaggaagggtg	3420
gacaactaac tgaggctgtg aggaggcgac cttatttgtt catactcttt gatgaagtgg	3480
agaaggctca tgttgctgtc ttcaacactc tgctccaagt tttggatgat ggtcgattga	3540
cagacgggca aggcaggaca gtcgatttca ggaactcggg gataatcatg acatcaaacc	3600
ttggtgctga acacctcctt gcagggctaa ctgggaaagt aacaatggaa gtggcccggtg	3660

actgtgtgat gcgagggtg aggaacact tcagaccaga gctcttgaac aggcttgacg	3720
agattgtggt gttcgacccc ctttcacatg accagttgag gaaagtagct cggttcaaa	3780
tgaaagacgt tegtgtccgg cttgctgaaa gaggagttgc tttggcagtc actgatgctg	3840
ctttggacta tatcttggca gagagttatg acccggttaag tctcttcaca tgatgcagaa	3900
tgcatatcat tgttgatctc tcaggctggt ttgttctgtt gactgactct tgtggttgc	3960
ttcttgtttt gttggttagg tgtatggtgc taggcctata aggagatgga tggagaagaa	4020
ggtggtgaca gaactgtcaa agatggttgt gcgtgaggaa atcgatgaaa actccactgt	4080
ttacatagat gcaggcgctg gtgatcttgt gtaccgggta gaaagtggag gtctagtgga	4140
cgcttcaaca ggcaagaagt cagatgtgct gattcatatt gctaaccgggc caaagagaag	4200
tgatgcagct caggcggtga agaagatgag gatcgaggaa atagaagatg acgataatga	4260
ggaaatgacg gaggattaaa gtcttgacct ccaacgtgtg agttcttttg aggtgttgtg	4320
attgtatgac ttgagctttc atgctctgtt ttggttttga ctcttttggt agactataat	4380
ggtgtggaac tgtaaaaaag tctactttat tatgttttcg tatatgtaa tcattttaca	4440
taagaaatcc attgtacgtc ccataatctt ttggggtttt ttcatacctt tgggatctta	4500
tcttacttaa tgctacgcat cagtgtttaa gagctgtctt aacaatctca tcaacgacac	4560
cttttagcgag ggggaagaag tggccacctc cggcaacctc atgatatgta agccaaggaa	4620
gcttatctgc aatgtaacgt tgcagcgtca caggcactaa catgtcctcg tctccttgcc	4680
acaaatgaac agagccttct ctgtttaaaa acggattctc gagttctaaa ggatcaaatt	4740
cccaatttcc aaaaccacac atcatatcac ggtaataact ctcatgtatt ccttgcctgc	4800
ttacttctgc caaatgcggt ttctctgaag atcccagctt caaaatgata tctttatcgg	4860
gctgtgacaa gacaccgcca tctcggttca caacactcga acccggaac cagttttgtg	4920
tgttccacca gtaaataagc caaggagcgt agtgagcaac acgaaccgcc cattgatctc	4980
tcttttgctg caagttaaat ccttcagtgg aaatgttcaa aggtaagttc ctccaatagt	5040
agttaaccac aggagcaact agtgttactc cggctaaccg gtgaggggtg tacttaaggc	5100
atccccacgc cgttgcctt cccattgatt tcccaatcac gtagaacttt gatcctagac	5160
tcagttgatc agctagctct tcaatatcca aagccaagct ttttggtgta cggattggat	5220
ccggatcact ctctccataa cccggtttgt caaacgaaac catatacacg cctcgttctt	5280
gaactaaatc ctataaagtg aaaacagatc aagaaattat tatgaacctt agttccaaga	5340
gttggtaga acgtaccgga gaaagaagag tggcgaaaac ggcgtcgtgt ctacaactat	5400
cggatccatg gatgaagact attttgtgtt tagctttctc tcttggaagt ccataactct	5460

tgtatgccaa atgtctcccg tctcgcagct ttatacgcgg tgctgtgac ggtggaccac	5520
cgggggagacc acatagattc ggtggaggag gtttcaagat tgactgataa gtcaacgcc	5580
agattatccc aacaataatg atcacacttg atggtccaat cgccatttcc acgatcaggt	5640
agtgagaaaag attaagtga caagtggaga atttggggag aaaccaaatt atattaagtt	5700
ttcatcactg aacaagagta ttttataga tgaagaaggg ctcttaggct tgtgacaagt	5760
cttctcagcc acgtcaattt cagggatgaa ttaaattcaa atatgttgca gtgatttgat	5820
actttaattg tgtgggtgcc aaaaaaggaa aagaaaaaga tacatgttaa gctgtcgaat	5880
tacaatgcta caatttggct aaaaattact ccaaatgtct aagactccag gtttcttcgt	5940
tatctccaat gaccactgag agtcttttta gattattttg gtgagggtgc acttgggtgc	6000
agcacaagca tgtgccgcag cacttacatt agtgagatta ggtctagttt agatatacca	6060
attagaccta attaatatat gtatagaaac taagcaaagc aagtacacaa tcaattagat	6120
gaattctcca ttcccttaat taaaagacaa acatagaaaa tataaccaa aagaccgac	6180
acatgtttaa aagatcaaag taaagaacat ggtaagcttg aaaggacaat tgaccagcct	6240
tagttgtcac ttacgaagt aaattacgag taaccgaatt aaacaaacat ataatgtga	6300
ccaattgtaa cgggtctatt gtatatccgt gtttctggaa actacaaagt acaaatgaac	6360
aaatacaaac tctaga	6376

<210> 32
 <211> 3049
 <212> DNA
 <213> Glycine max

<400> 32	
ctctaagcaa ttattgtata cattctcttc tctctccctt ttctcatcac acactaactt	60
gcttttcgagg ttttcttctt ctttctcgaa ttttcacata ccgaacttct cgtctttcac	120
atctccaggt ttgaaatgaa tcttgagaag ttactcaca agactaatga agctcttgcg	180
tcggcccacg agctcgcgat gaggttcagg caccgcgaat tgactcccat ccacttggcc	240
caccgcgtga tttccgatcc caacggcatc ttcgtgctag cgataaacag cgcgggcggc	300
ggcgaggaat cggcacgcgc cgtggagcga gtgttgaacc aggctctgaa gaagctaccc	360
tgccagtccc ctccgccgga cgaggtgccg gcgagcacca acctcgtgag ggccatcagg	420
agagcacagg cggcgcaaaa atcacgtggc gacacgcgtt tggccgttga tcagttgac	480
ctcggaatcc tcgaagactc ccaaactcga gacctgttga aggaagcggg ggttgcggtg	540
gcgaaggtag aatcggaagt ggataagctt cgtgggaagg aagggaagaa ggttgagagc	600
gcttccgggg atacgaattt ccaagctttg aagacttatg ggcgtgacct tgttgaacaa	660

gcggggaagc tcgaccctgt tattggccgt gacgaagaga ttagaagggt tgtgaggatt	720
ctatcacgga ggactaagaa caaccgggtt ctcgttggag aaccgggtgt gggaaaaact	780
gcggttgtgg aagggttggc acagaggata gtaagagggg atgttccaag caaccttgc	840
gatgtgaggc ttattgcgtt ggatatgggg gcgttggctg cgggtgccaa gtatagaggc	900
gagtttgagg agcgggttaa ggctgttttg aaggaagtgg aggaggctga ggggaagggtg	960
atactcttca ttgatgagat tcatctggtc cttggtgctg gtagaactga aggctccatg	1020
gatgctgcta atctattcaa acctatgctt gctcgcggcc agcttaggtg cattggtgcc	1080
accacgcttg aggagtacag gaagtatgtg gagaaggatg ctgcattcga gaggagggtc	1140
caacagggtt ttgtggcgga acctagtgtg gttgatacca ttagcattct tcgtggcttg	1200
aaagagagat atgaaggcca tcacggtgtt agaattcagg accgtgcttt ggttatggca	1260
gctcaattgt ctaaccggta tataactggg cgctcatctc ctgacaaggc aattgatttg	1320
gttgacgagg cttgtgcaaa tgtaggggtt caacttgata gtcagcctga ggaaattgat	1380
aaccttgaaa ggaagagaat gcagctagaa gtggaacttc atgctctgga gaaagagaaa	1440
gacaaggcta gcaaagcccg tcttgttgaa gtgcggaaag aacttgatga cttgaggggc	1500
aagcttcagc ctttgatgat gaagtaccga aaagagaaag agagggttga tgagattcga	1560
aggctcaaga agaaaagaga agagcttctt ttgctttac aagaggctga gagaagatat	1620
gatctggcta gagctgcaga cctgcgatat ggagcaattc aagagggtga aactgcaata	1680
caacaacttg aagggagcac tgaagagaat ctgatgttga ctgaaactgt tggaccggag	1740
caaatagctg aggttgtgag ccgctggacc ggtataccag ttacaaggct tggccaaaat	1800
gaaaaagaaa gattgattgg acttggtgac agattgcaca gcagagtgtg aggacaagac	1860
caagctgta atgctgttgc tgaggctgtg ttgagatcta gagctgggct aggaagacct	1920
caacaaccaa ctggttcatt cctattcctt ggtccaactg gtgttggtaa aactgagctt	1980
gcaaaggctc ttgctgagca actatttgat aatgaaaacc agttggtgag aattgatatg	2040
tccgaataca tggagcagca ctcggtttca agattgattg gtgcaccacc agggatgtt	2100
ggacatgagg aaggtggaca actaactgaa gccgtaaggc gaagacctta cagtgtgggtg	2160
ctttttgatg aagtggaaaa ggcacataca tctgtgttca atactcttct tcaagttttg	2220
gacgatggga ggttaactga tggacaaggc cgtactgtgg actttagaaa cactgtaatt	2280
atcatgacct caaatcttgg agcagagcac ctcctcagtg gactttcagg aaaatgtacc	2340
atgcaagttg ctcgggatcg ggtaatgcag gaggtgagaa ggcaatttag gccagaattg	2400
ctgaatcgac ttgatgaaat tgtggatatt gaccccttt cacatgacca attgaggaag	2460
gttgcaaggc tacaatatgaa ggatgtagct agtcgtcttg ctgagaaagg aattgccttg	2520

gcagtcactg atgcagcact agactatata ctttccgaga gctatgatcc ggtgtatggt	2580
gctagaccaa taaggaggtg gcttgagaag aagggtgtga cagagttgtc tagaatgctt	2640
gtaagagagg agattgatga gaattcaacg gtttacatag atgctggacc caatgggggc	2700
gagttggtct accgtgtaga aaagaatgga ggggttggtta atcctacaac tgggcagaag	2760
tccgatatct tgattcagat acctaattgga catgcaccta aaactgatgc tgttcaagca	2820
gtcaagaaga tgaagattga ggaaattgat gatgatgaaa tggaagagtg aattttatga	2880
taaaatgtaa ttagtttgat ggcgcaagct cctcttgaaac ttcttctttt gtcttttatg	2940
tgttttgaat ggggtgtgagt gaaaattgaa gaagtcctt gtaacacctg ctttttgtct	3000
gatcaataaa ttttcttctt gtaaaaaacc aaaaaaaaaa aaaaaaaaaa	3049

<210> 33

<211> 3052

<212> DNA

<213> Nicotiana tabacum

<400> 33

accaagcact cgaatttcgc caaatcacat tgaaggaatt gctaattttc ttgcgtttct	60
attcgtttat tgcgtaaga ttgtctatag gtgactcatt atgaatcctg aaaaattcac	120
ccacaagact aacgaggccc ttgctggggc actcgagcta gcactatccg cagggcatgc	180
tcaattttacg cctctgcata tggctgtggc cttaatatct gatcacaatg gtatttttcg	240
acaagcgatt gtcaatgctg gtgggaatga agaagtagct aattcagtgg agcgggtatt	300
gaatcaagcg atgaagaagc taccttctca aacaccggct cctgacgaaa tcccacctag	360
cacttcctt atcaaggtgt tacgccgagc acaatcgtcg cagaagctc gtggtgacag	420
ccatttagca gtggatcagt tgattttagg actgctagaa gactcccaa ttggagatct	480
tttgaagaa gctggagtga gtgcataag agtgaaatca gaggtagaga aacttagagg	540
aaaggaagga agaaaagtcg aaagtgttc aggggacacc acattccaag cactcaacac	600
ttatggccgt gatcttgtg aacaagcagg aaagcttgat cccgtgattg gtagggatga	660
agaaattaga agagtcgttc ggattttatc aaggaggact aagaacaacc cggttcttat	720
tggagagccc ggtgtgggta aaacagcagt tgttgaaggg ctagcacaga ggattgtacg	780
tggtgatgtt ccaagtaatt tagctgatgt taggcttata gcattggata tgggagcgct	840
agttgctgga gctaagtaca gaggtgaatt tgaagagagg ctgaaggctg tgctgaaaga	900
agttgaagaa gcggaaggga aagtaatact ttctattgac gagatacatt tagtcctcgg	960
tgctggtcgg acagaagggt ctatggatgc tgctaactctg tttaagccaa tgctagccag	1020
aggtaatta cggtgcatg gtgcaactac actcgaggag tacaggaagt atgttgagaa	1080

ggatgctgca tttgagaggc gtttccagca ggtgtatgtt gctgagccta gtgttgctga	1140
cactattagt attctccgtg ggttgaagga gaggtatgaa gggcatcatg gtgtcaaaat	1200
tcaggacaga gctctttagt tggctgccca gctctcatct cggtagacatta caggctcgaca	1260
tctgccagat aaggctattg acctagttag tgaagcttgt gcaaatgtta gagttcagct	1320
tgatagtcaa cctgaggaaa ttgacaatct tgagagggaag agaattcagc tagaggttga	1380
acttcacgct ctgcagaagg aaaaagacaa agctagcaaa gcacgtctca tagaagtga	1440
gaaagaactt gatgatttga gagacaaact ccaacctttg atgatgaggt acaagaaaga	1500
gaaggaaagg atagatgagc tgcgcaggct caagcaaaag cgcgatgagc tcatctatgc	1560
tttacaagaa gctgaaaagga gatatgatct ggcgagggca gcagatctga gatatggggc	1620
aattcaagaa gtggaaactg caatagcaaa tcttgagagt acctcagctg aaagtacaat	1680
gctaacagag actgtgggtc ctgatcagat tgcggaagt gtgagtcgtt ggactggtat	1740
tccggtctca aggcttggtc agaatgagaa agagaaactg attggtcttg gcgatagatt	1800
gcaccaaaga gtggctcggc aagatcatgc agttagagct gttgctgaag ccgtgttaa	1860
gtccagagct ggtttaggaa ggccacagca accaactggt tcattccttt tcttggggcc	1920
aactggtgtt ggaagacag agctcgctaa agctcttgca gagcagctct ttgatgatga	1980
taaactgatg atcagaatag acatgtccga gtacatggaa caacactctg tttcccggt	2040
gattggtgct ccaccaggt atgttgggca tgatgaggga ggacaactta ctgaagctgt	2100
taggaggcgg ccttacagtg ttgtgctatt tgatgaagt gagaaagccc atcctgcagt	2160
gtttaataca ttgcttcaag ttctggatga tgggaaggta acagatggtc aaggccgcac	2220
agttgatttc accaactccg tgattattat gacttcaaac ttgggagcag agtatctgtt	2280
gtctggatta atgggcaaat gtaccatgga gacagctcgt gaaatgttca tgcaggagggt	2340
gcgaaagcag ttaagccc agctgctgaa tcggctggat gagattgttg tgtttgatcc	2400
tctgtccac aagcagttga ggcaagtatg ccgctaccag atgaaggacg ttgcactacg	2460
gctggctgag aggggtattg cattgggcgt tactgaggca gctccagatg tcatactcac	2520
agagagttat gacccggttt atggtgcaag acctattagg agatggttg agaggaaggt	2580
ggtgaccgag ctatccaaga tgctcgtgaa ggaggagatt gatgagaact caacggttta	2640
catagatgct ggggtcagcg ggaaagatct aacctacagg gtggagaaga atggagggct	2700
tgtgaatgct gccaccgggc aaaaatctga tatattgatt cagcttcccta atgggtccag	2760
gagtgatgct gtccaagcag tcaagaagat gaggattgaa gaaattgaag atgacgaaat	2820
ggaagattga agaagttgaa aattaatcaa aaaaagatga aacagagact actaacattg	2880

caatagcttc aactttgagg atactacttg tatatgtgtt gattttatga acgtattttt	2940
tgttgctctta cagggctctga aacaggggtt tatccttcta tcatgtaagt gtaaactttc	3000
tacttgttgt ctttattaat gtactcactt cggtgaaaaa aaaaaaaaaa aa	3052

<210> 34
 <211> 3058
 <212> DNA
 <213> *Triticum aestivum*

<400> 34	
tcggcacgag gaagaagaca ccaaggcgaa tccccccaa tcgccattgc cagttccgtt	60
gcagttaatc cgtagctcgc agaagcggaa gccatgaatc ccgacaagtt cacgcacaag	120
accaatgagg cgctcgcggc ggcgcacgag atggcgtccg aggccggcca cgcgcagctc	180
acgcgcgtgc acctcgccgc ggcgctcgcg gcggacaggt cgggcacccct ccgccaggcc	240
atcgcccacg cgtccggcgg caacgacgcc gcggccgagt cgttcgagcg cgctcgcgtcc	300
gccgcgctca agcggctgcc ctgcgagtc ccgccgccc acaccgtccc ggctccacc	360
tcgctgggtca aggccgtccg ccgcgcgcag tcggcgcaga agtcgcgcgg cgactcgcac	420
ctcgccgtcg accagctgct catgggcctc ctcgaggacc cgcagatctc cgacgcgctc	480
aaggaggccg gcatctccgc tgcgcgggtg aaggccgagg tcgagaagct ccggggaggc	540
gacaaccggc gcgtggagtc cgcgtcgggg gacaccaact tccaggccct caagacgtac	600
ggccgcgacc tcgtggaggt ggccggcaag ctggaccggt tcacgcgccg cgacgaggag	660
atccggcgcg tggtcgggat cctgtcgcgg cgcacaaaga acaaccccg cctcatcggc	720
gagcccgcg tgggcaagac cgccgtgggt gaggggctcg cgcagcgcgt cgtgcgcggc	780
gacgtcccca gcaacctcct ggacgtgcgc ctggtcgcgc tcgacatggg cgcgctcgtg	840
gccggcgcca agtaccgcgg cgagttcgag gagcgggtca aggccgtgct caaggagggtg	900
gaggaggccg aggggaaggt gatactgttc atcgacgaga tacacctggt gctcgcgcc	960
ggcgcgacgg aggggtcaat ggacgcggcc aacctgttca agccgatgct ggcgaggggg	1020
cagctcaggt gcattggcgc gacgacctc gaggagtaca ggaagtacgt cgagaaggac	1080
gccgcgttcg agaggcggtt ccagcaggtg ttctgtggcg agcccagcgt cccggacacc	1140
gtcagcatalc tcagagggtt caaggagaag tacgaggggc accatggcgt gaggattcag	1200
gaccgcgcgc tcgtcattgc cgcgcagctc tcgtcgaggt acatcatggg tcgccatttg	1260
cctgataaag caatcgattt ggttgacgag gcctgcgcaa atgtgagggt gcaacttgac	1320
agccagcctg aagagatcga caacctcgag aggaagagga tccagttgga agtcgagctc	1380
catgccctcg agaaggagaa ggacaaggct agcaaagctc ggctagtgtg tgtgaggaaa	1440

gagttggacg atctgagaga caagctgcag ccgctgcaga tgaagtatcg caaggagaaa	1500
gagaggatcg acgagatcag gagcctgaag cagcgccgcg aagagctgca gttcactctg	1560
caggaggccg agcgccggat ggatttggcc cgcgtggctg atctcagata cgggtctctg	1620
caggaggttg acgctgccat tgctaagctg gagggtgaga ccggcgagaa tttgatgtta	1680
acagagactg tcggccccga ccagattgct gagtggtga gccgctggac tggatttctt	1740
gtcaccaggc tcggacagaa tgagaaggcg aggctgatcg ggctggcaga tcgactgcac	1800
cagagggtcg ttggacagta tgaggcgcg aatgcagttg gagaggctgt tctacggtcg	1860
agggtctggc ttggacgccc gcagcagcct actggttcat tctcttctt tggaccgacc	1920
ggtgtcggaa aaaccgagct cgccaaggct ctagctgagc agctgtttga tgacgagaac	1980
ctgctcgtcc gcatcgacat gtctgaatac atggagcagc attcggttgc ccggctaata	2040
ggagccccac ctggatatgt tggtcatgaa gaaggggggc agctgaccga gcaagtgagg	2100
aggaggccat acagtgtcat cctcttcgac gaggttgaga aggcgcatgt ggcggtgttc	2160
aacactctgc tccaggtcct ggacgatggg cggttgaccg acgggcaagg caggacggtt	2220
gatttttagga acacggtgat catcatgacc tcaaaccttg gcgcggagca cctctcgc	2280
ggaatggtgg gcaattcgat gaaggttgct cgtgatctgg tcatgcagga ggtgaggagg	2340
catttccgcc cggagctgct gaaccgtctg gacgagatcg tcatcttcga cctctgtcg	2400
catgagcagc tgcggaaggc cgctcggctt cagatgaaag atgtggcagt ccgtcttgcc	2460
gagaggggcg ttgctctggc cgtcaccgac gccgccctgg acgtcactct gtcactgtct	2520
tacgatccgg tctatggcgc caggccaatc cggagatgga tcgagaagag gatagtgcg	2580
gagctctcca agatgttgat ccgcgaggag atcgacgaga actccacggt gtacatcgac	2640
gctgcgccc gcaaggacga gctgacctat ggctgcgaca agcacggagg gctggtgaac	2700
gcgcgcacgg gccacaagtc cgacatcctg atccagggtc ctacgggagc tgttgggggc	2760
gatgcggcgc acgccgtgaa gaagatgaag atcatgcagg acagcggaga ggtggacgac	2820
atggaggaag agtagatgga aaccgcacgc attgatccct ttctgactgt agttccaagt	2880
gcctgcacca ggcagtcgta tgagctctgt ttttgctttt ggaccgtgct gatttaggta	2940
gttcggaatc gtatctgttg aattgggggt gaaatgaatt gtagttgagg atggaaaaaa	3000
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa	3058

<210> 35
 <211> 3084
 <212> DNA
 <213> Zea mays

<400> 35

ggcacgagag aaaaactagc cgaagcaaac ccattccaca agcacctggt gggatcatct	60
catcatcaga aacaaagaga gagattccgt gcccacttgt tgtagtagat tgtgaggatt	120
gaggagtagc aaagagaagc agccatgaat ccggacaact tccccacaa gacgaacgag	180
gcgatcgtgg gggcgcacga gattgcggtg gaggccggcc acgcgcagct cacgccgctg	240
cacctggccg cagtgtctggc tgcggacaag ggcggcatcc tgcggcaggc catcacgggg	300
gcgtcggggg gcgacggagc ggccggggac tcgttcgagc gcgtgctgaa caactcgctc	360
aagaagctgc cgtcgcagtc ccgcgcccg gactccgtcc cggcgtccac ggactgatc	420
aaggatcatcc gccggggcga gtccgcgcag aaaaaacgcg gggactctca cctcgccgtc	480
gaccagctgc tgctcggcct gctcgaggac tcgcagatct ccgactgcct caaggaggcc	540
ggcgtgtccg cggcgcggtg gcgcgccgag cttgagaagc tccgcggcgg ggaggggcg	600
cgcgtggagt ccgcgtcggg ggacaccaac ttccaggcgc tcaagacata cggccgggac	660
ctcgttgagc aggcggggaa gctggacccc gtcatcggcc gcgacgagga gatccgccg	720
gtggtgcgca tcctctcgcg ccgcactaag aacaaccccg tcctcatcgg cgagcccggc	780
gttggaaga cggccgtcgt ggagggcctc gcgcagcgca tcgttcgcgg cgacgtgcc	840
agtaacctcc tcgacgtccg cctcatcgcg ctcgacatgg gcgcgctcgt cgcgggcgc	900
aagtaccgcg gcgagttcga ggagcggtc aaggccgtgc tcaaggagggt ggaagaggcc	960
gaggggaagg tcattctctt catcgacgag atacacctcg tcctgggcgc gggcaggacg	1020
gagggttcca tggacgcggc caacctgttc aagccaatgc tggcgagggg acagctcagg	1080
tgcatcggcg ccaccacgct ggaggagtac cgcaagtacg tggagaagga cgcagcgttc	1140
gagcggcggt tccagcaggt gtctgtcgcg gagccgagcg tgcccacac cgtcagcatt	1200
ctgaggggac tcaaggagaa gtacgagggg caccatggcg tgaggatcca ggaccgcgc	1260
ctcgtggtcg cggcacagct atccgcgagg tacatcatgg gtcggcacct gcctgacaaa	1320
gccatagacc tgggtggacga ggcttgcgc aatgtgaggg tcgagctcga cagccagccg	1380
gaggagattg ataacctgga gaggaagaga atccagcttg aggttgagct ccacgcgctc	1440
gagaaggaga aggacaaggc cagcaaagcc cggctgatcg aggtcaggaa ggaattggac	1500
gatctgaggg acaagctgca gccctgacc atgaagtaca ggaaggagaa ggagagaatc	1560
gatgagatca ggaagctgaa gcagcgcgc gaggagctcc agttcacct gcaggaggcc	1620
gagcgcggga tggacctggc ccgtgtggcc gacctcaagt acggcgccct ccaggaaatc	1680
gacgccgca tctccaagct ggagagcgaa acaggggaga acctgatgct caccgaaacc	1740
gtcggccctg aacaaattgc agaggtggtg agccgttgga cgggtattcc agtgaccgg	1800
cttggccaga acgacaagga gaggtggtc ggcctggctg acaggcttca ccagagggtg	1860

gtcggccaga cagaggctgt gagcgccgtc gcagaggcgg tgctgaggtc gagggccggg	1920
cttggcaggc cacaacagcc cactggctcg ttcctgttcc tgggtccgac tggcgtgggg	1980
aaaactgagc tagccaaggc cctagccgaa cagctgttcg acgacgagaa ccttcttgtc	2040
cgcacgcaca tgcggagta catggagcag cactcgggtg ctgcctcat cgagcacccg	2100
cctggctacg tcggccatga agagggtggg cagctgactg aacaagtgag gaggaggccg	2160
tacagcgtga tcctgttcga cgaggctcag aaggcccatg tcgccgtgtt caacaccctg	2220
ctccaggctc tcgacgacgg caggttgacg gatgggcaag gcaggacggg ggacttcagg	2280
aacaccgtga tcatcatgac atcgaacctc ggcgccgagc acctcctcgc tgggatgggtg	2340
ggcaagaact ccatgaaggc cgctcgcgat ctggtcatgc aggaggtgag gaggcacttc	2400
cgacccgagc tgctgaaccg tctcgacgag atcgtgatct tcgatcctct gtcccacgag	2460
cagctgagga aggtcgctcg ccttcagatg aaggatgtgg ccgtccgtct tgccgaaagg	2520
ggcatcgctc tggtgtgac cgacgccgca ttggacatca tcttgtctct ctcttacgat	2580
ccggtgtacg gcgcgcggcc aatcaggagg tggatcgaga agagggtggg gacgcagctg	2640
tcgaagatgc tgatccagga ggagatcgac gagaactgca cggctctacat cgacgccg	2700
cccggcaagg acgagctggg ctacagggtg gaccggagcg gcggtctggg gaacgctgag	2760
acggggatga agtcggacat cctgatccag gtccccaaca gctccaccag gagcgacgct	2820
gcgcaggccg tcaagaagat gaggatcatg gaggaggacg aggacggtat ggacgaggag	2880
taaaaggcgg gccggaggac gcggagctgc gcccaggccg caggctctggc gccggcatca	2940
tcgagtgtct tttgaataag cgtgtagata agcccgtgaa tatgcagacg aggttgagat	3000
gatgttcttg taacgtgct gtttgtcaag catggacgaa tggctctctca tatagtatca	3060
aagtgacaag tctctcaaaa aaaa	3084

<210> 36
 <211> 2045
 <212> DNA
 <213> Zea mays

<400> 36	
cagcgttcga gcggcgggttc cagcagggtg tcgtcgcgga gccgagcgtg cccgataccg	60
tcagcattct gaggggactc aaggagaagt acgaggggca ccatggcgtg aggatccagg	120
accgcgcct cgtggtcgcg gcacagctct ccgcgaggta catcatgggt cggcacctgc	180
ctgacaaagc catagacctg gtggacgagg cctgcgcca tgtgaggggt cagctcgaca	240
gccagccgga ggagattgat aacctggaga ggaagagaat ccagcttgag gtcgagctcc	300
acgcgctcga gaaggagaag gacaaggcca gtaaagcccg gctgattgag gtcaggaagg	360

aattggacga tctgagggac aagctgcagc ccctgaccat gaagtacagg aaggagaagg	420
agagaatcga tgagatcagg aagctgaagc agcgccgcga ggagctccag ttcaccctgc	480
aggaggccga gcgcgcatg gatctggccc gtgtggccga tctcaagtac ggcgccctcc	540
aggaaatcga cgccgcgac tccaagctgg agagcgaaac aggggagaac ctgatgctca	600
ccgaaaccgt cgccctgaa caaattgcag aggtggtgag ccgttgagc ggtattccag	660
tgacccggt tggccagaac gacaaggaga ggctggtcgg cctggctgac aggttcacc	720
agagggtggt cgccagaca gaggtgtga gcgcgctgc agaggcggg ctgaggtcga	780
gggcgggtct tggcaggcca caacagccca ctggctcgtt cctcttctg ggtccgactg	840
gcgtggggaa aactgagctg gccaaaggccc tagccgaaca gctgttcgac gacgagaacc	900
ttcttgtccg catcgacatg tcggagtaca tggagcagca ctcggttct cgcctcatcg	960
gagcaccacc tggtacgct gcccatgaag aggggtgggca gctgactgaa caagtgagga	1020
ggaggccgta cagcgtgatc ctgttcgacg aggtcgagaa ggcccatgtc gccgtgttca	1080
acaccctgct ccaggtcctc gacgacggca ggctgacgga tgggcaaggc aggacgggtg	1140
acttcaggaa caccgtgatc atcatgacat cgaacctcgg cgccgagcac ctctcgtg	1200
ggatggtggg caagaactcc atgaaggctc ctgcgcatct ggtcatgcag gaggtgagga	1260
ggcacttccg ccctgagctg ctgaaccgtc tcgacgagat cgtgatcttc gatcctctgt	1320
cccacgagca gctgaggaag gtcgctcgcc ttcagatgaa ggatgtggc gtccgtcttg	1380
ccgaaagggg catcgctctg gctgtgaccg acgccgcatt ggacatcatc ttgtctctct	1440
cttacgatcc ggtgtacggc gcgcggccaa taaggagggt gatcgagaag aggggtgtga	1500
cgcagctgtc gaagatgctg atccaggagg agatcgacga gaactgcacg gtctacatcg	1560
acgccgcgcc cggttaaggac gaactggtct acagggtgga ccggagcggc ggtctggtga	1620
acgctgagac ggggatgaag tcggacatcc tgatccagggt cccaccagc tccaccagga	1680
gcgacgctgc gcaggccgtc aagaagatga ggatcatgga ggaggacgag gacggcatgg	1740
acgaggagta aaaggcgggc cggaggacgc ggagctgcgc ccaggccgca ggtctggcgc	1800
cggcatcatc gagtgtcttt tgaataagcg ttagataag cccgtgaatg tggaaacgag	1860
gatgagatga tgttcttgta acgtgctgt ttgtcaagca tggacgaatg ctctcatatc	1920
atcatatggt gtcaaagtga caaagtctct caatcgatgt cttgatgtca ttatttttat	1980
ctccctgaat gtttttcatc gttttcctct attcattgta tcctttatgc aaaaaaaaaa	2040
aaaaa	2045

<210> 37

<211> 3942
 <212> DNA
 <213> Zea mays

<220>
 <221> misc_feature
 <222> (1)..(3942)
 <223> n equals unknown

```

<400> 37
gtggggcccat ggcacagacg gcttacagag atcctacccc acattccaga gatatggaac      60
gccaccatgg ccgataccga acagccgcgc catgtgtcac acatcgggag cacttcgtca      120
acaatccaac ggtccatgat tattaaggcc cacatgtcat agaacctctt ggcacctctt      180
cgccgcttcg tcacctgtcc cgtcgctcgt cctctcgttt ccacggcctt ctagactccc      240
ggcgaacact cccctccgcc ttcttatgct catcccctcc gcttccgaag cacaacattt      300
caaccagaaa cactagccga agcaaatcca ttccacaagc acctgggtggg atcatctcat      360
catcagaaac caagagagag attccgtgtc cgcttggtgt agtagattgt gaggactgag      420
gaccgagaag cagccatgaa tccggacaac ttcaccaca agacgaacga ggcgatcgtg      480
ggggcgcacg agattgcggt ggaggccggc cacgcgcagc tcacgccgct gcacctggcc      540
gcagtgcctg ctgcggacaa gggcggcata ctgcggcagg ccatcacggg ggcgtcgggg      600
ggcgacggag cggccgggga ctcgttcgag cgcgtgctga acaactcgct caagaagctg      660
ccgtcgcagt ccccgccgcc ggactccggt ccggcgtcta cggcgtgat caaggtcatc      720
cgccggggcg agtccgcgca gaagaaacgc ggggactcgc acctcgccgt cgaccagctg      780
ctgctcggcc tgctcgagga ctgcgagatc tccgactgcc tcaaggaggc cggcgtgtcc      840
gcgggcgggg tgcgcgccga gcttgagaag ctccgcggcg gggaggggcg ccgcgtggag      900
tccgcgtcgg gggataccaa cttccaggcg ctcaagacat acggccggga cctcgtcgag      960
caggccggga agcttgacct cgtcatcggc cgcgacgagg agatccgccg cgtcgtgcgc     1020
attctctcgc gccgcaccaa gaataacccc gtccctcatc gcgagcccgg cgttggcaag     1080
acggccgtcg tggagggcct cgcgcagcgc atcgttcgcg gcgacgtgcc cagtaacctc     1140
ctcgacgtcc gcctcatcgc gctcgacatg ggcgcgctcg tcgcggggcg caagtaccgc     1200
ggcgagtctc aggagcggct caaggccgtg ctcaaggagg tggaagaggc cgaggggaag     1260
gtcattctct tcategacga gatacacctc gtccctgggcg cgggcaggac ggagggttcc     1320
atggacgcgg ccaacctgtt caagccaatg ctggcgaggg gacagctcag gtgcacggc     1380
gccaccacgc tggaggagta ccgcaagtac gtggagaagg acgcagcgtt cgagcggcgg     1440
ttccagcagg tgttcgtcgc ggagccgagc gtgcccgcga ccgtcagcat tctgaggggc     1500

```

ctcaaggaga agtacgaggg gcacccatggc gtgaggatcc aggaccgcgc cctcgtggtc 1560
 gcggcacagc tctccgcgag gtacatcatg ggctcggcacc tgcctgacaa agccatagac 1620
 ctggtggacg aggcctgcgc caatgtgagg gtgcagctcg acagccagcc ggaagagatt 1680
 gataacctgg agaggaagag aatccagctt gaggttgagc tccacgcgct cgagaaggag 1740
 aaggacaagg ccagcaaaagc cgggctgatt gaggtgcgtg tctcagagcac tgaattttcc 1800
 tcaaacaagt cctcttgtct gatgttcctg ttttgaactt ttgatactaa cgtcgcctaa 1860
 ctgtggccat tgttcaggtc aggaaggaat tggacgatct gagggacaag ctgcagcccc 1920
 tgaccatgaa gtacaggaag gagaaggaga gaattgatga gatcaggaag ctgaagcagc 1980
 gccgcgagga gctccagtcc accctgcagg aggccgagcg ccggatggac ctggcccgtg 2040
 tggccgacct caagtacggc gccctccagg aaatcgacgc tgctatctcc aagctggaga 2100
 gcgaaacagg ggagaacctg atgctcaccg aaaccgtcgg ccctgaacaa attgcagagg 2160
 tatgttatta ttcttgttca ccgtcacaaa aattttgcag agcaagtgcc gaatttgccg 2220
 atcgtctcct agtagagtag tcgtgcagcg tgctgaaatg gtgtttcgtc ctatgggcag 2280
 gtggtgagcc gttggacggg tattccagtg acccggttg gccagaacga caaggagagg 2340
 ctggttgacc tggtgacag gcttcaccag agggtggtcg gccagacaga ggctgtgagc 2400
 gccgtcgagc aggcgggtct gaggtcgagg gccggtcttg gcaggccaca acagcccact 2460
 ggctcgttcc tcttcctggg tccgactggc gtggggaaaa ctgagctggc caaggcccta 2520
 gccgaacagc tgttcgacga cgagaacctt cttgtccgca tcgacatgtc ggagtacatg 2580
 gagcagcact cggttgcccg cctcatcgga gcaccacctg ggtaagtagc agaaaatgca 2640
 tgcattctcg tatttttaac tgcgaaatgc gatgaactct tgttctgaca gtgggcccga 2700
 cctgtgacag ctacgtcggc catgaagagg gtgggcagct gactgaacaa gtgaggagga 2760
 ggccgtacag cgtgatctg ttcgacgagg tcgagaaggc ccatgtcgcc gtgttcaaca 2820
 cctgctcca ggtcctcgac gacggcaggc tgacggatgg gcaaggcagg acggtggact 2880
 tcaggaacac cgtgatcatc atgacatcga acctcggcgc cgagcacctc ctcgctggga 2940
 tgggtggcaa gaactccatg aaggctcgctc gcgatctggc catgcaggag gtatgcattg 3000
 cgataacgtt ctgaatcgtc gttagacatt gttcctctgc agcgtgatgc tcaatcggat 3060
 cgttattgct gtgtgcaggc gaggaggcac ttccgccctg agctgctgaa ccgtctcgac 3120
 gagatcgtga tcttcgatcc tctgtccac gagcagctga ggaaggctcg tcgccttcag 3180
 atgaaggatg tggccgtccg tcttgccgaa aggggcacgc ctctggctgt gaccgacgcc 3240
 gcattggaca tcattctgtc tctctcttac gatccggtat gtgaccatcc atgatttgat 3300
 ccatctgaat tcgtcggatg cacctgatgg tgctgactct cttatcttcc ttgtgtggct 3360

tcaacaacag gtgtatggcg cgcggccaat caggaggtgg atcgagaaga gggtagtgac 3420
gcagctgtcg aagatgctga tccaggagga gatcgacgag aactgcacgg tctacatcga 3480
cgccgcgccc ggcaaggacg agctgggtcta cagggtggac cggagcggcg gtctgggtgaa 3540
cgctgagacg gggatgaagt cggacatcct gatccaggtc cccaacagct ccaccaggag 3600
cgacgctcg caggccgtca agaagatgag gatcatggag gaggacgagg acggcatgga 3660
cgaggagtaa aaggcgggccc ggaggacgcg gagctgcgcc caggccgcan gtctggcgcc 3720
ggcatcatcg agtgtctttt gaataagcgt gtagataagc ccgtgaatat gcagacgagg 3780
ttgagatgat gttcttgtaa cgctgctgtt tgtcaagcat ggacggatgg tctctcatat 3840
ggatatcaaag tgacgaaggt ctctcaatcg atgtctgtc attattttta tctccctaaa 3900
tgtttttaca tgttttctc tattcattgc atcctttatg ca 3942

<210> 38

<211> 3214

<212> DNA

<213> Phaseolus lunatus

<400> 38

gaattcggca cgagaagaat ctctgctctc gccgtcaatg gctaccagac gaactccgac 60
gctagccaaa tcgcttttcg ccaccgtaac tgcttctaga acctctcgct cccggtccgc 120
gcgacgactc ttctccgcca taactcgtgc ttcgagact tctccgaatg tcctttctcg 180
gtctcagggt gtgcagcgac ttgcagccaa caatgtcgcc tccgccaat tcctctccct 240
ctctttcacc cgcagcttcc acgccactaa tccctccctc cgctctgctg caagctctca 300
ggtagcccag actgaattca cagatatggc atggggagggg attcttgggg ctggtgatgc 360
ggctcggatt agtaaacagc aaattgtgga gtctgagcac ttaatgaaag cctttttgga 420
gcaaaaggat ggcttgccac gaagggtgtt tactaagaca ggattggaca acacgtctgt 480
tctacaggct actgatgatt ttataccgaa gcaacctaa gttactggcg aactactgg 540
acctgttata ggctcacacc ttagctccct cttggacaat gcgcgaaagt acaagaaaga 600
aatgggggat gagtatgtgt ctgtggagca cctattgctt gcatttcatt cagataagac 660
gtttgggcag cagttgttca agaactctca gcttagcggg ataactttga aggatgctgt 720
acaagctgtt cgtggaagtc aaagagtgc tgatcaaaa cggaggggga aatatgaggc 780
actggataag tatggaaaac atctgactga acttgctaag cgtggcaagc ttgatcctgt 840
cataggtcga gatgatgaaa ttcggcgctg tatccagata ttatcaagga gaacaaaaaa 900
caatccggtt attattggtg aaccgggtgt gggcaaaaact gcaatagctg aaggattagc 960
tcaacgtatt gtgcgtggtg atgttctcga gccattgatg aacagaaagt tgatctccct 1020

ggatatgggt tcattgcttg ctggggccaa gtatcgtgga gatthttgaag aaagggtgaa	1080
agctgtcctg aaggaagtta cagcatcaaa tgggcaaata atthttgttta ttgatgaaat	1140
tcatactggt gtagggtgcag gggctacaag tgggtgcaatg gacgccggga acttgttgaa	1200
gccaatgctt ggaagagggtg aacttagatg tataggagca actacattaa atgagtatag	1260
aaaatatatt gaaaaggatc ctgactgga gcgtagattt cagcaagtgt tttgcagtca	1320
accatctggt gaagatacaa tatccattct tcgtgggttg cgtgaacggt atgagttgca	1380
tcattggagtc aaaatatcag atagtgcact tgtttcagct gcagttcttg cagatcgata	1440
cattacggag cgctttttac ctgacaaagc cattgatctt gttgatgaag ctgctgcgaa	1500
gctgaagatg gagataacct ctaagcctac tgaattggat gagatagaca gggcaatatt	1560
gaaattggag atggaaaagc tctctttgaa aaatgacact gacaaggcat ctaaaagaaag	1620
attaagtaag ctcgaaaatg atttgagttt acttaaacag aagcaaaaag aattggcaga	1680
acaatgggac aatgaaaag tttttatgac acgaataagg tcaatcaaag aagagattga	1740
cagagtcaac ctagagatgg aagctgctga acgtgattat gacctgaacc gtgctgctga	1800
gctcaagtat ggaactttga tgtcccttca gcgccaatta gaagaagctg aaaagaacct	1860
aactgacttc cgaaaagtctg ggaaatcttt acttcggaga agagggtcact accttgatat	1920
tactgagatt gttagcaagt ggactgggtat accattatca aacctccaac aaacagagag	1980
agaaaaatta gtcttgctgg aacaggttct tcacaataga gtggttgggtc aggatatcgc	2040
tgtaaaatct gtggctgatg caattcgccg ttcaagggtt ggattgtctg atccaaaccg	2100
gccaatgca agcttcatgt tcattgggtcc aactgggtgt ggcaaaactg agcttgccaa	2160
ggctttggct ggttacttgt ttaacactga aaatgctctt gttagaattg atatgagtga	2220
gtacatggag aaacatgctg tttcacgttt agttggagcc cctcctgggt atattgggta	2280
tgaagaagga ggtcagctga ctgaagtggc ccggagaaga cctactctg tggctctatt	2340
tgatgaaata gagaaggcac atcacgatgt cttcaacata ttgttacagt tgttgatga	2400
tggaaggatt actgattccc aaggaaggac tgttagcttc acgaattgtg ttgtgatcat	2460
gacttcaaac attggttcac attttatact tgaaaccctt cgtagcacac aagatgataa	2520
aactggagtc tatgatcaga tgaagagaca agttgttgag ttggccaggc aaacatttcg	2580
tccagagttc atgaatcgca ttgacgaata tattgtgttc cagccttttg attccgaaca	2640
gataagcaaa atagtggagc tccagatgga acgagtga aaacaggctta agcaaaagaa	2700
aattgatctt catttcacag aagaagctgt taaacatctt ggtgtactgg gttttgatcc	2760
aaattttggt gcaagaccag ttaagagagt gatacaacag ttagttgaaa atgaaattgc	2820

tatgggagtt ctaaggggag atttcaaaga agaggactca attattgtgg atgctgatgt	2880
ggctccatca ggcaaagaac gttctctaaa tagactgctt attaagaagt tggacagccc	2940
tgttcagat gccatggttg tcaatcacta attttgccca ctgcaaagct ttcacataga	3000
taaaagcgta gttcacacct ttttttttaa actcggtagg acgcgacagt agtcctcgtg	3060
ttttattaat gttttctttt tgtgtgtaat tattgtcata cgaatagtct gtttcagaat	3120
atgtgtgat tcttgtttca ctctggattg aaaaggcat taaatatacct gaattttata	3180
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa	3214

<210> 39
 <211> 3107
 <212> DNA
 <213> Triticum aestivum

<400> 39	
tcggcacgag agcaatccca caaacactcg ccgatcccaa tcaatcttcc aacccaaaat	60
cttgtcagtt cgatccattg tagagcgcgga gcgcaagcag cagcagcagc catgaacccg	120
gacaacttca cgcacaagac caacgaggcg ctggtggcgg cgcacgaggc ggcgtcggag	180
gccggccacg cgcagatcac gccgctgcac ctggcgggcg cgctggcggc ggacaagtcg	240
ggcatcctgc gccaggccgt cgcgggggcg tccggcggga acgcgtccgc gggggactcg	300
ttcgagcgcg tgctctccgg cgcgtcaag aagctgccgt cgcagtcccc ccgcgggac	360
tccgtgccgg cctccacggc gctcatcaag gccatccgc gcgcgcagtc cgcgcagaag	420
aagcgcgggg actcccacct cgccgtcgac cagctgtcga tgggcctcct cgaggacgcg	480
cagatcgccg actgcctcaa ggaggccggc gtgtccgcct cgcgggtgcg cgccgagctc	540
gagaagctcc gcggcgggga caactcgcgc aaggtcgagt ccgcctccgg cgacaccaac	600
ttccaggcgc tcaagacgta cggccgcgac ctctcgagg tggccggcaa gctcgacccc	660
gtcatcggcc gcgacgagga gatccgcgc gtcgtgcgca tcctctcac cgcaccaag	720
aacaaccccg tcctcatcgg cgagcccggc gtgggcaaga cggccgtcgt ggagggcctc	780
gcgcagcgcg tcgtgcgcgg ggacgtgccc agcaacctgc tcgacgtccg cctcgtcgcg	840
ctcgacatgg gcgcgctcgt cgccggcgcc aagtaaccgc gcgagttcga ggagcggctc	900
aaggccgtgc tcaaggaggt ggaggaggcc gagggcaagg tcctcctctt catcgacgag	960
atacacctcg tcctcggcgc cgggaggacg gaggggtcca tggacgccgc caacctgttc	1020
aagccgatgc tcgccagggg ccagctccgg tgcctcggcg ccaccacgct ggaggagtac	1080
cgcaagtacg tcgagaagga cgccgcgttc gagcggcggt tccagcaggt gtacgtggcc	1140
gagccgagcg tcgccgacac catcagcatc ctgcgagggc tcaaggagaa gtacgagggg	1200

caccacggcg	tgcgcatcca	ggaccgcgcc	atcgctcgtcg	cggcgcagct	ctcggcgagg	1260
tacatcatgg	gccggcacct	gccggacaag	gccatcgacc	tggtaggacga	ggcgtgcgcc	1320
aacgtgaggg	tgagctgga	cagccagccg	gaggagatcg	acaacctgga	gaggaagcgg	1380
attcagctgg	aggtggagct	gcacgcgctg	gagaaggaga	aggacaaggc	cagcaaggcc	1440
cggtggtgg	aggtgaggaa	ggagctggac	gacctgaggg	acaagctgca	gccgctgacg	1500
atgaagtaca	ggaaggagaa	ggagcggatc	gacgagatcc	ggaagctgaa	gcagcggcgc	1560
gaggagctgc	agttcacgct	gcaggaggcg	gagcggcgca	tggacctggc	ccgctcgcc	1620
gacctcaagt	acggcgcgct	ccaggagatc	gacgccgcca	tcgccaaagt	ggagggcgag	1680
accggcgaga	acctgatgct	caccgagacc	gtcggccccg	agcagatcgc	ggaggtggtg	1740
agccggtgga	ccggcatccc	ggtgaccggg	ctcgggcaga	acgacaagga	gcggctcgtc	1800
ggcatggcgg	acaggctgca	cacgagggtg	gtcgggcaga	cggaggccgt	gaacgccgtc	1860
gccgaggcgg	tgctgaggtc	cagggcgggg	cttgggcggc	cgcagcagcc	caccgggtcg	1920
ttcctcttcc	tgggcccgcg	cggcgtgggc	aagaccgagc	tcgccaaagg	cctcgccgag	1980
cagctgttcg	acgacgagaa	cctgctcgtc	cgcatcgaca	tgtccgagta	catggagcag	2040
cactccgtcg	cccgcctcat	cggagcgcca	cctggctatg	tcgggcacga	ggagggcggg	2100
cagctgacgg	agcagggtgag	gaggaggccg	tacagcgtga	tcctgttcga	cgaggtggag	2160
aaggcgcacg	tggcgggtgt	caacacgctc	ctccagggtg	tggacgacgg	ccggctgacc	2220
gacgggcaag	gcaggacggt	ggacttccgg	aacaccgtga	tcatcatgac	ctccaacctc	2280
ggcgccgagc	acctcctcgc	cgggatggtg	ggcaagaact	ccatgaagg	cgcgccgac	2340
ctcgtcatgc	aggaggtgag	gaggcacttc	aggccggagc	tgctgaaccg	gctggacgag	2400
atcgctcgtc	tcgacccgct	gtccacgag	cagctgagga	aggtcgctcg	cctgcagatg	2460
aaggacgtgg	ccgtccggct	cgccgagcgc	ggcgtcgccc	tggccgtcac	cgacgtgcg	2520
ctggacgtca	tcctgtctct	ggcctacgac	ccggtgtatg	gcgctcggcc	gatcaggagg	2580
tggatcgaga	agcgggtggt	gacgcagctg	tccaagatgc	tgatccagga	ggagatcgac	2640
gagaactgca	cgtgttacat	cgacgccgcc	aacaaggacg	agctggccta	ccgggtggac	2700
cgacgcggcg	ggctggtgaa	cgccgagacg	gggcagaggt	ccgacatcct	catccagggtg	2760
cccaacggcg	ccctcggcgg	cggcaaaggc	ggcgaggcgg	ccaaggccgt	gaagaagatg	2820
cggtcatg	aggacgggga	cgaggacggc	atggacgaag	atgtttgaag	tttgaactct	2880
gaagctgaag	tgaagcttgc	tgaagtgccg	cctgtcggat	aaagtgtgta	gatgagttgc	2940
ggtgaggcag	gcaggcgctt	cgtggtgctc	tgggaagatg	ttgtcctgtg	acgcgtgtgt	3000
cgtttgaccg	gaagctgtta	cggcttcggg	aataatcttc	tgtgtttttg	tgagttctgtt	3060

gaattgaaga gagaaaagag tgtcttgtga aaaaaaaaaa aaaaaaa

3107

<210> 40

<211> 2821

<212> DNA

<213> *Triticum aestivum*

<400> 40

ccaacccaaa gtctctgccc gttcgatcca ttgtagagtg cgagcgcaag cagcagcagc	60
ggccatgaac cgggacaact tcacgcacaa gaccaacgag gcgctggtgg cggcgcacga	120
ggcggcgctcg gaggccggcc acgcgcagat cagccgttg cacctggcgg cggcgctggc	180
ggcggacaag tcgggcatcc tgcggcaggc cgtcgcgggg gcgtccggcg ggaatgcgtc	240
cgcgggggac tcgttcgagc gcgtgctcgc cggcgcgctc aggaagctgc cgtcgcagtc	300
gccgcccgcg gactccgtgc cggcctccac ggcgctcacc aaggccatcc gccgcgcgca	360
gtcggcgagc aagaagcgcg gggactcgca cctcgccgtc gaccagctgc tcatgggacct	420
cctcgaggac gcgcagatcg ccgactgcct caaggaggcc ggcgtgtccg cctcgcgggt	480
gcgcgccgag ctcgacaagc tccgcggcgg ggacaactcg cgcaaggtcg agtccgcctt	540
cggcgacacc accttcaggc cgctcaagac gtacggccgc gacctcgtcg aggtggccgg	600
caagctcgac cccgtcatcg gccgcgacga ggagatccgc cgcgtcgtgc gcatcctctc	660
gcgcgccacc aagaacaacc ccgtcctcat cggcgagccc ggcgtcggca agacggccgt	720
cgctcaggggc ctgcgcgagc gcgtcgtgcg cggggacgtg cccagcaacc tgctcgagct	780
ccgcctcgtc gcgtcgcaca tgggcgcgct cgtcgcgggc gccaaagtacc gcggcgagtt	840
cgaggagcgg ctcaaggcgg tgctcaagga ggtggaggag gccgacggca aggtcatcct	900
cttcatcgac gagatacacc tcgtcctcgg cgcggggagg acggaggggt ccatggacgc	960
ggccaacctc ttcaagccca tgctcgccag gggccagctc cgtgcatcg gcgccaccac	1020
gctggaggag taccgcaagt acgtcgagaa ggacgcgcgc ttcgagcgac ggttccagca	1080
ggtgtacgtg gccgagccga gcgtcgccga caccatcagc atcctgcgag ggctcaagga	1140
gaagtacgag gggcaccacg gcgtcgcat ccaggaccgc gccatcgtcg tcgcggcgca	1200
gctctcggcc aggtacatca tgggcccga cctgccggac aaggccatcg acctggtgga	1260
cgaggcgtgc gccaacgtga ggggtgcagct ggacagccag ccggaggaga tcgacaatct	1320
ggagcggaag cggattcagc tggaggtgga gctgcacgcg ctggagaagg agaaggacaa	1380
ggccagcaag gcccggctgg tggaggtgag gaaggagctg gacgacctga gggacaagct	1440
gcagccgctg accatgaagt acaggaagga gaaggagcgg atcgacgaga tccggaagct	1500
gaagcagcgg cgggaggagc tgcagtccac gctgcaggag gccgagcggc gcatggacct	1560

ggcacgcgtc gccgacctca agtacggcgc cctccaggag atcgacgccg ccattgcgaa	1620
gctggagggc gagaccggcg agaacctgat gctcaccgag accgtcggcc ccgagcagat	1680
cgcggagggtg gtgagccggt ggaccggcat cccggtgacc cggctcgggc agaacgacaa	1740
ggagcgcctg gtcggcatgg cggacaggct gcacacgagg gtggtcgggc agacggaggc	1800
cgtgaacgcc gtcgccgagg cgggtgctgag gtccaggggc gggcttgggc ggccgcagca	1860
gcccaccggg tcgttctctt tcctggggcc gaccggcgtg ggcaagacag agctcgccaa	1920
ggccctcgcc gagcagctgt tcgacgacga gaacctgtc gtccgcatcg acatgtccga	1980
gtacatggag cagcactccg tcgctcgccct catcgggcgc ccaccaggct atgtcggaca	2040
cgaggagggc gggcagctga cggagcagggt gaggaggagg ccgtacagcg tgatcctgtt	2100
cgacgagggtg gagaaggcgc acgtggcgggt gttcaacacg ctccctcagg tgctggacga	2160
cggccggctg accgacgggc aaggccggac ggtggacttc cggaacaccg tgatcatcat	2220
gacctccaac ctggcgccg agcacctcct cgccgggatg gtgggcaaga actccatgaa	2280
ggtcgcccg gacctcgtea tgcaggagggt gaggaggcac ttcaggcccg agctgctgaa	2340
ccggctggac gagatggtga tcttcgaccc gctgtccac gagcagctga ggaaggtcgc	2400
ccgctgcag atgaaggacg tggccgtccg gctcgccgag cgcggcgctg cactggccgt	2460
caccgacgcc gcgctggacg tcatcctgtc gctggcctac gatccagtgt atggcgctcg	2520
gccgatcagg aggtggatcg agaagagggt ggtgacgcag ctgtccaaga tgctgatcca	2580
ggaggagatc gacgagaatt gcaactgtga catcgacgcc gccgacaagg acgagctggc	2640
ctaccgggtg gaccgcagcg gcgggctggt gaacgccgag acggggcaga ggtccgacat	2700
cctcatccag gtgcccaacg gcgcctcgg cgccggcggc ggcggcgagg cggccaaggc	2760
cgtgaagaag atgagggtca tggaggacgg ggacgaggac ggcatggacg aagatgtttg	2820
a	2821

<210> 41
 <211> 2776
 <212> DNA
 <213> *Synechococcus* sp.

<400> 41	
gctttttact ggcgattcaa aagacggatt tcgctcgagc actggccgga tctccgatct	60
gggcaagcgg tcgcccctgc ctaaaatggg ttcacgcgtg gaacttctca ccatgcaacc	120
gacgaatccc aatcaattta ctgaaaaagc ctgggaagcg atcgttcgca caactgatgt	180
tgcgaaacaa gctcagcatc agcaaattga atcagaacat ctgttttttg ccttgcttca	240
agaaccaggg ctggctctga atatcctcaa gaaagcaggg ttagaagcgg cacaactaca	300

gcagttttaca gagcggttta ttgcccgccca gccaaagggtg agtgggggta atcagtcggt	360
ttatctgggg cgatcgctcg atcaactcct cgatcaggcg gatcagtttc gcaaggactt	420
tggggatgaa tttatttcgg ttgagcacct catcctcagc tttccccgcg attcccgttt	480
tgggcgcttg ctgagtcgaag aattcaagggt tgacgagaag cagctccgctc agattattca	540
acagattcga ggcagccaaa aagtgactga tcaaaaccct gaaggtaa atcgaagccct	600
cgaaaaatat gggcgtgacc tgactgaaat ggcgcgtcgt ggcaagctcg atcccgtcat	660
tggccgcgat gatgaaatcc gtcgcactat tcagattctc agtcggcgca ccaagaataa	720
tccggtcttg attggcgagc ctggggtttg caaaactgcg atcgcagaag gattagccca	780
gcggattatt aatggtgatg tcccgaatc cctcaaggat cggcggctga ttgctttgga	840
catgggtgcc ttaattgcag gtgctaaatt ccggggtgag tttgaagaac gcctgacagc	900
agtcctcaag gaagtcaact actctgaagg catcattatc ctctttattg atgagatgca	960
tacggtggtt ggtgctggag cgggtccaagg ctccatggat gctggcaact tactgaagac	1020
gatgctggcg cggggagaat tgctctgtat tggggcaacc acactaggta aatcgcgca	1080
atatattgag aaggatgcg ctcttgaacg acgcttccaa caggctcttg tcgatcaacc	1140
tacggtagaa gatacgcctc cgattttgcg tggcttaaaa gagcgctatg aagtgcacga	1200
tggcgctcgt atttctgaca acgctcttgt cgctgctgct gtcctctcga cccgctacat	1260
cagcgatcgc ttcttgccag ataaggcgat tgatttagtc gatgagtcgg cggctcgact	1320
caagatggaa atcacttcaa agccagaaga attagatgag atcgatcgca agattctcca	1380
gctcgaaatg gaacgactct ccttgcaaaa agagagtgat cttgcctcac aggaacgtct	1440
gcaacggcta gaaaaagagt tggccgacct aaaagaagag cagcggagtt taagcagtca	1500
atggcaagct gaaaaggatg ttattactga tatccaatcc gtcaaggaag agattgatca	1560
ggttaacttg ctaattcaac aggcagagcg agattacgac ctgaacaaag cagctgagct	1620
gaagtacggc aaactgacag aactgcagcg caagctcaac gaaatggagg gcggtttagc	1680
gacgaccac accagtggca agtctctgct gcgcgaagaa gtgacagagg ttgacattgc	1740
tgaaatcatc tctaagtgga cggggattcc tgtcagcaag ctggttgagt cagagatgca	1800
aaagctcttc aatctcgatg aagaactgca tcaacgggtg attggccaag aagaagcgg	1860
ttctgctgtc gcggatgcaa ttcagcgatc gcgagctggg ttgtctgac cgaacgccc	1920
gatcgcgagc ttcactctct tgggccctac aggggttggg aaaaccgagt tggccaaagc	1980
cctagctgcc tatctcttcg acactgaaga cgcgatgatt cgcattgata tgcggagta	2040
catggagaaa cacgcggttt cgcggttaat cggcgcgcct cgggctacg tcggctatga	2100

cgaaggcggc caactcacgg aagcgggtgcg gcggcggtccc tattccgtca tcctctttga	2160
tgagattgag aaggcccatc cagatgtcct caacgtcatg ttgcagattc tcgatgatgg	2220
tcgagtcacc gatagccgcg gccgaacagt ggacttcaag aatacaatct tgattttgac	2280
cagcaatata ggttcgcaat acattctcga tgtggctggc gatgacagcc gctacgaaga	2340
aatgcggagc cgtgtcaccg aagcactgcg ggctaatttc cgaccggaat ttctgaatcg	2400
ggtcgatgag acaatcatct tccacagcct gcgcaaggat cagttgcagc agattgtgcg	2460
gattcaactg catcgcttg aagaacgatt gagcgatcgc aaattatcgc tgtcgatgag	2520
tccagaagcg atcgatttct tggttgagat tggttttgat cccgtctatg gagctcgtcc	2580
gctcaaacga gtcattcagc gagagttgga aactgcgatc gctaaggcga tcctcagggg	2640
gcaattcagt gatggcgaca cgattcaagt tgctgtggag aatgaacgac tcgctcttaa	2700
ggcgatcgca actccaactg cggttccct gagctaata cccctctaa tttgagcgaa	2760
gtaaaagcct gtaatc	2776

<210> 42

<211> 4109

<212> DNA

<213> *Lactococcus lactis cremoris*

<400> 42

cttattttac ttataaatat taaaactact gacaaaaatt ctgtcagtag tttttgtata	60
taataaaagt caaaaaacga atcaaaaagt ttgactatta ctgaccaatg tattataatt	120
agaatgtagt gagaaaaaga taacaatcac taccaactat gaaatcgaaa tgagggtgtt	180
ttatggacat cgaaaaaatg acaacaacga tgcaagaagc acttggttca gcgcaacaaa	240
ttgcgcaagt tcgtcatcac caagtgattg aagttccaca tttatggcga atttttgttc	300
aacctaatag ttttggggcg aacttttata aagatttagg gattgaccta gatgacttta	360
caaatttaat tgaaaaagaa attgacaaaa ttaattcggg agaaggttca aatattactt	420
atggtcaaaa cctaagtcca gatttgttcc aagtatttac tgaagcagac aaaattgcgc	480
aaaaaatggg cgatgaatac ctatcaactg agattattct ccttgctctc tttgaattaa	540
aacaaaatcc attgaccgag tatttgggtca gccatggact aacaaaagca aaagcgcaag	600
ctgcgattga aaaattacgt ggaggtgata aagtgaccag tcaaatgca gaagaacat	660
acaaagcact tgaaaaatat ggggtggatc tcgttgctca agttaaatca ggcaatcaag	720
atcccgatcatt tggacgtgat gaagaaatc gtgatgtcat tcgagtgtct tctcgtaaaa	780
caaaaaacaa tccggttctt attggtgaac ctgggggttg taaaacagcc attgtcgaag	840
gattggcaca aaggattgtc agaaaagacg ttcctgaaaa tctaaaagat aaaacaatct	900

tttctactgga tatgggtgcc ttgattgcag gagcgaaata tcgtggtgaa tttgaagaac	960
gtttgaaagc agtccttaat gaagttaaaa aagctgatgg acaaattatc cttttcattg	1020
atgaacttca taccattgtt ggtgcaggta aaacagaagg ttcaatggat gctggttaacc	1080
ttttgaaacc aatgcttgca cgtggtgaac tccatttgat tggggcaacg accttggatg	1140
aatatcgtaa atacatggaa acagataaag cacttgaacg tcgtttccaa aaagtattgg	1200
tcaactgagcc taccgttgaa gatacgattt caatcttgcg tgggtctaaa gaacgttttg	1260
aaattcacca tggggtgacc attcatgata atgctttaat tgcagcagcc acattgtcaa	1320
atcgttatat tacagaccgt ttcttaccag ataaagcgat cgacttaatt gatgaagcca	1380
gtgcaacgat tcgggtggaa atgaattcac tcccaactga acttgaccaa gccaatcgtc	1440
gcttgatgca attagaaatt gaagaagcag ccctcaaaaa agaacgggat gatgcttcta	1500
agaaacgtct tgaattata cgtggtgaaa ttgctgaact tcgagaagaa aataatcaac	1560
tcaaagccca atgggaagct gagaaaaaag aagtgggcaa tatttctgaa aaacgtaatg	1620
aattagaaca tgctcgccac gaattggaag aagcccaaaa tgaaggaaac ttagaaaaag	1680
cagcagccct tcgttatggg aaaattcctg aaattgaaaa agaactcaaa gctattgaag	1740
aaaaagcaaa atcagatgat ttatctttag ttcaagaatc agtcactgaa gaacaaatcg	1800
ccgaagtggg tggacggatg actggtattc caattacca attggttgaa ggtgaacgtg	1860
aaaaattact tcatttgcca gaaacacttc atcaaagagt tgtcggacaa gatgaagctg	1920
ttgaagccgt atctgatgcc attattcgtg cgcgtgcagg aattcaagac cctaaccgtc	1980
cacttggtc attcctcttc cttggaccaa ctggggtagg taagaccgaa cttgcgaaaag	2040
cattggctga aaatctcttt gattcagaag aacatatggg tcggattgac atgagtgaat	2100
atatggaaaa acacagcgtg tcacgtttag tcggagctcc tccaggatat gtcggttacg	2160
atgaaggagg ccaattgacc gaagccgttc gccgtaatcc ttataccatc atcttgcttg	2220
atgaaatcga aaaagcacat ccagatgtct tcaatatctt gttgcaagtt ttagatgacg	2280
gacgtttgac cgactctaaa ggtgttctcg tcgactttaa gaatacagta ttgattatga	2340
cttcaaatgt cggttctcaa tatctgctcg ataattgttg agaaaaatgg gaaatttctg	2400
aagaacaac agaaaaatgt atgtcgcaac ttcgcgcgca tttcaacca gaatttttaa	2460
accggattga tgataccatt cttttcaaac cattggcgct tgaagacatc aagaacatta	2520
tccttaaaat gaccagtc aa ctagcacatc gtcttgaaga aatggaagtt gagcttgaat	2580
tgagtgaaga agtaaaagtt tggattgctg aaaatgctta tgaacctgct tatggtgcac	2640
gcccactcaa acgttacttg acaaaagtca tcgaaaaatcc attagctaag ctgattatcg	2700
gaggaaaaat tccacaaaa tcaaaagtta ttgtaaggct tatagataac aaggttgact	2760

ttgatgttca atcgattgct gaataaatag attaaaccgt tggetgatgc tgggggtttt	2820
ttatgtagat atgtgaatat ttaaataaac aaaagcctta tttccgaaca atccaatcaa	2880
aaagtttcag ttctacctgc tggaactttt tttatgtttg aaaatcattt aacatggaag	2940
tagaataaaa taaatcagaa aatggagaat gacagtgtct gagaatgcgt atgcaaaatc	3000
tggggtagat gtagaagcag gatatgaggt ggtttctcgt attaagaagc acgttgctaa	3060
aaccgaacgt ttaggggtgc ttggggcact ggggtggtttt ggtggaagtt ttgacttate	3120
tgtgcttgat gtcaaagaac ctgtattgat ttcagggaca gatggtgtag ggaccaagtt	3180
gatgctggcc attcgagcag acaagcatga tacgattggg attgattgcg tagccatgtg	3240
tgtcaatgac attattgctg ctggggctga gccgttgat tttttggatt atattgcgac	3300
agggaaaaat attcctgaaa aattggagca agttgtggct ggagtggccg aaggttgctt	3360
gcaagcagga gcagctctga ttggtggaga aacagctgaa atgcccggaa tgtatgatga	3420
agatgattat gatttagctg gttttgctgt ggggtgtggct gaaaaatcac aattaattga	3480
tggcgaaaaa gatgtggaag caggcgatgt tttgcttggc cttgcatcat ctgggattca	3540
ttctaattga tactctttgg ttcggaaagt ttttctgac tttgatttga atgaatcatt	3600
gcctgaactt gaccaatctt tgattgatac tcttttaact ccgactaaaa tctatgtcaa	3660
agagctcttg cctttgatta agcaaaaata aataaaagga attgctcata ttacgggtgg	3720
aggattccat gaaaatttgc caagaatgtt cggaaatagc ttgtcagctg aaattgtcga	3780
aggttcttgg gatgttttac caattttcaa ggctcttgaa aaatatggaa gtatcaagca	3840
cgaagaaatg tatgaaatth tcaatatggg gattggaatg gttatcgtg ttgctcctga	3900
aatgctgct gctctcaaaa aagagttgaa tgctttcgag attgggtcaaa tggttaatcg	3960
acaagaggca ccagtagtta ttaaaaaata atcttttttc attaagaata ggggatagaa	4020
tgaaaattgc agtatttgca tcaggaaatg gctctaactt tcaaagacta gctgaacaat	4080
ttcctaaggt agtgaagttt gttttttca	4109

<210> 43
 <211> 2992
 <212> DNA
 <213> *Spinacia oleracea*

<400> 43	
tttacacatc tcttccttgt tcacaacctc atctcagccg ttccttcccc tctcacttgg	60
aaggaaaagt ctcttcttct tccctcacc accatctcac cccatcccat tttctctctc	120
ttccattttc cgattttctg ggtgtagtca tggctggggc attgattcaa tcaactaaca	180
tcccttcatt ggcttacaaa gtaaatggcc aatttcaaag atctgataag ggtaataagg	240

ctgtgaagat gatggccagc cttcaggacc ccgatatag aatgcgaact ttctcggggg	300
ttcgtggagg aaatgctttg gatacttttg gaactaccag tgaatgtttc tactccaaga	360
tgagggtctgt gctttctgta cgtaaaggga cagccagccg tgggtgtagt agggtctatgt	420
ttgaacgttt cactgagaaa gcaattaaag taatcatgct tgcctaagaa gaggcaagac	480
ggttaggcca taactttgtt ggcacagagc agattttgct gggctttatt ggtgaaggca	540
ctggaattgc tgccaaggtc ttgaaatcca tgggaattaa tctgaaagat gctcgtgtag	600
aagttgagaa aattattggg aggggcagcg gatttggtgc tgttgaaatt ccattttactc	660
ctcgtgccaa gcgtgttttg gaactttcat tagaggaagc ccgtcaactt ggccacaact	720
atattgggtc agagcacttg cttctgggtc ttcttcgtga gggtgagggt gtagctgtctc	780
gtgttttaga gaatttggtt gctgaccta gtaacatccg tacgcagggt atacgtatgg	840
tcggtgaaaa cacagaagct gttggtgctg gtgttgaggg tggcactaca ggaataaga	900
tgccaacttt ggaagagtat ggaacaaatt tgacaaaatt ggcggaagag ggaaaattgg	960
atcctgttgt tggaagacaa gcacagattg agcgtgttac ccaaattctg ggtagcgcaa	1020
caaaaaataa ccctgtctt attggagagc ccggtgttg taaaacagct atagcagagg	1080
gccttgctca aagaatagct actggtgatg ttccagaaac aattgaggga aagaaggtta	1140
ttactcttca tatgggtctt ctggttgctg gaactaaata ccgtggagaa tttgaggaaa	1200
gattgaagaa gttgatggag gaaattaaac aaagtgatga aataatttta tttattgatg	1260
aagtacatac tttgattggg gcaggagcag cagaaggagc catcgatcgt gcaaactatt	1320
tgaaaccacg ttttcaagg ggtgaattac agtgtattgg agctaccacc cttgatgagt	1380
acagaaaaca cattgagaaa gatccagcac ttgagagaag gtttcagcct gttaaagtgc	1440
ccgagccaac tgtagatgaa actatacaga tcttgaaagg gcttcgtgaa cgctatgaga	1500
tccatcacia acttcggtac acggatgaag cactagtggc tgcagacaaa ctctcttacc	1560
agtacatcag tgaccgtttc ctgcctgata aagctattga ccttatagat gaagcgggtt	1620
cccgggttct gccagctcc ctgaagaagc tagagagctg gttacaacat gagaaagaac	1680
ttaggcagct cactaaggag aagaatgaag ctgtccgtgg ccaagacttt gaaaaggctg	1740
gtgagttcg tgacagagaa atggacctca aggcccaaat tagtgctctt gtagagaaga	1800
agaaggaaat gagcaaggcg gagacagaag ctggggatgt cggtcctatg gtcacagaat	1860
ctgatattca gcacatagtg tcttcttgga ctggtattcc tgttgagaaa gtatctactg	1920
atgaatctga tcgtctactc aagatggaag atacacttca taccagagta attggtcaag	1980
atgaagctgt taaagccatt agccgtgcc tccgccgtgc tcgtgtaggc ctaaagaacc	2040

ccaaccgtcc aattgcaagc ttcattcttct caggccaac tgggtgttga aagtctgaac 2100
 ttgccaaagc tttggctgct tactactttg gttcagaaga agctatgata cggcttgata 2160
 tgagtgaagt catggaagc cactctgtat ccaaactaat tgggtcacc cagggttatg 2220
 taggttatat tgaaggtggc cagcttactg aggtgttag acgtcgccca tacacgggtg 2280
 ttctttttga tgaattgag aaggcacatc ctgatgtctt taacatgatg cttcaaattc 2340
 ttgaagacgg gaggttgact gacagcaagg gaaggactgc cgatttcaag aacacacttc 2400
 ttattatgac atcaaagtgt ggaagtagtg taatcgagaa aggtgggctg aggataggtt 2460
 ttgacctaga ctatgatgag aaggacagca gttacaaccg tatcaagagc cttgtgactg 2520
 aagagcttaa gcagtacttt aggcctgagt tcttgaacag attagatgag atgatttgtt 2580
 ttaggcaact tacaagctg gaggtcaagg aaattgccga tattatgttg aaggaggat 2640
 ttgggagggt gaagaacaag gaaattgagc ttcaagtaac agagagattc agagataggg 2700
 tgggtgatga aggcataaac ctagttatg gtgctagacc ttgaggagg gctattatga 2760
 gacttctgga ggatagcatg gctgagaaaa tgcttgctag gaaatcaaag aggggtgatc 2820
 agtgattgtg gatgtagatt ctgatggaaa tgttatcgtc ctcaatggta gcagtgggtc 2880
 acctccagag agcttaccag aagttctcac tgtgtagaga ccaaacatgc cgtctactgt 2940
 cagtttgatt tccaaagtat gtttgctgtt acttggtatt gcttctgaa tt 2992

<210> 44

<211> 2685

<212> DNA

<213> *Lactococcus lactis*

<400> 44

aaagtactga cagaacgtga aggaattta ctattgctcg taatcactga cggagccatc 60
 agtcccttta ctctgtgtat aatgatgaaa agtataataa acagattgga tcgtgacgat 120
 gaaatttgaa aatgtaaaat atacaccaac actggaccga attttcgaga aagcagcaga 180
 atatgcccac caatatcaat acggtacgat tgaaagtgtt catttattgg cagcaatggc 240
 tactacttca ggctcaattg cttacagtat tcttgctgga atgaatgttg attcttcaga 300
 cttactgatt gatttggaag atttatctag ccatgtcaaa gtgaaacgtt ctgaattacg 360
 tttctctcct cgcgcagaag aagtgggtac tgtagctagc tttttggcag ttcataataa 420
 tgcagaagca gtaggaacag agcatttgct ttatgcatta cttcaagtcg aagatggttt 480
 tgggtctcaa cttttgaagt tcaaaaaaat caacattgtt tctttgcgaa aagaaattga 540
 aaaaagaaca ggacttatag ttccagaaaa caaaaaagct gtaacaccaa tgtccaaacg 600
 taagatggca aaaggggtag cagagaattc aagtacacca actttggatt cagtttcttc 660

agatttaact gaagctgctc gttcaggaaa gcttgacca atgattggctc gggaagcaga	720
agttgaccgt ttgattcata ttcttagtcg tagaacaaaa aataaccctg ttttagttgg	780
tgaacctggt gttggtaa at cagcaataat cgagggattg gctcaaagaa ttgtcaacgg	840
ccaagtacct atcggtttga tgaatagccg gattatggct ctaaatatgg caactgttgt	900
tgctggtaca aaatttagag gtgaatttga agaccgcttg acagcaattg ttgaagaagt	960
aagtgtgac ccagatgtca tcattttcat tgatgaattg catacaatta ttggtgctgg	1020
cgggggcatg gactcggta atgatgcagc aaatatttta aaaccagccc ttgcacgtgg	1080
tgactttcaa atggttgggg caacgactta tcatgaatac caaaaataca ttgaaaaaga	1140
tgaagcatta gaacgtcgtt tggcaagaat caatgttgat gagccaagtc cagatgaagc	1200
cattgctatc ttacaagggt tacgtgagaa atttgaagat tatcatcaag taaaatttac	1260
tgaccaagcg attaaaagcg cagtgcact tagtggtcgg tacatgacca gtcgcaaat	1320
gcctgataaa gccattgact tgctcgatga agcagcggca cgagttaaaa tctgtttaa	1380
aaccaagaaa caaacgttt ttgaattaga gaaagacttt gttaaagtc aagaagaact	1440
agcggaagct gtcattaaac ttgatgttaa agcctctcgc atcaaagaaa aagctgttga	1500
aaaaatttct gacaagattt ataaattctc aataaaagag gaaaaacgtc aagaagtac	1560
tgaccaagct gttattgctg ttgcctcaac gctgacaggt gttccaatta ctcaaatgac	1620
taaatctgaa agcgaccgtt tgattaatct tgaaaaagaa ttgcacaaac gggtcgttgg	1680
tcaagaagaa gcaatttctg cggtttcaag agccattcgt cgggcacgtt ctggtgtggc	1740
tgatagtcgc cgtccaatgg gttcatttat gtttctagga ccaactggtg ttgggaaaac	1800
tgagttagct aaggccttgg ccgatagtgt ttttggtagc gaagacaaca tgattcgagt	1860
ggacatgagt gaattcatgg aaaaacattc aacttcacgc ttgattgggg cccctccagg	1920
atatgttggt tatgatgaag gtggtcaatt gactgaacgc gttcgtaata aaccctattc	1980
tgtggttctt ttagatgaag ttgagaaagc tcatcttgac gttttcaata tcatgttgca	2040
aattctagat gatggatttg tgacagatac aaagggccgc aaagttagt ttgaaacac	2100
aattattatc atgacttcaa acttggtgac aacggctctt cgtgatgata aaacagttgg	2160
ttttggtgca aaaaatatca cggctgacta ctcagctatg caatcaagaa ttttgaaga	2220
acttaaacgt cattatcgtc cagagtttct caatcgtatt gatgaaaaca ttgttttcca	2280
ttcattggaa agtcaagaaa ttgaacaaat tgtaagatt atgagcaaat ctttgattaa	2340
acgtttggcg gaacaagata ttcattgtgaa acttacgcc tcagcaataa aactaatcgc	2400
tgaagttaga tttgaccag aatatggggc acgtccattg cgtaaagcac tccaaaaaga	2460
agttgaagat cttttaagtg aacaattgct ctcgggtgag attaaagcag gaaatcatat	2520

ttccattggt gcttctaata aaaaaattaa aatcgctcaa attgtttgag atgaaagccg	2580
tttcatgtta taattaaatt agaaataaag gaaaggacag ttcgaaaaga ttcagaagtc	2640
ctgaaaattc caaaagttta aggacttcat tgaacaaaaa agaac	2685

<210> 45
 <211> 7523
 <212> DNA
 <213> *Listeria monocytogenes*

<400> 45	
aagcttctct gcgccaatgg tagttggggg cttccccctg cgagagtagg tcgctgccgg	60
gcaatttgaa aagtcctaata tatttagggc tttttttgtt tgtaaaagat aaataaattg	120
ctaataagggtg gggatatcta gtataattaa agtcaaaaaat agtcaaagtc aatgatttgc	180
aaaaaacaga aaggagattc cttataatga aaaatatctt tgatattata gaagcttatt	240
tgaacaagt attggaatct agtgaagcag ttgaaattaa aagaagtga attgcagata	300
agtttgaatg tgtaccttca caaattaact atgtaataaa cactagattt acaatggaac	360
gaggggtatat tgttgaaagc aaacgtgggt gtggtggata tattcggatt attaaagtga	420
aatgaatga taaacttcaa ttgttagaag caatcatttc aatgggtcat gataaaaagg	480
tctctcaatc attttctgaa gatgttattt tgaggttgct tgaagaagaa gtaataacga	540
agaaagaagc aagattaatg gttgcggcat tggaccgtga agttttaatt ttacctttac	600
cggatagaga tattttgaga agtaggattt tagaggcgat gttagttgct ttgaaatatg	660
attaaggtgt gatgacgatg atttgtcaaa gatgtggaga aaataaagca gttatagcct	720
tgaacaatt aaatgagctt gggaaagtgg agtcattgta cctatgcgag aattgtgcta	780
cggacgaagc tctctcctca gaaaaagatt tagttaaagc gatggacact tttagtggag	840
ttgtctttga tttcttaacg cttttgcaaa aagaggaaaa tacgcagaaa gaggttgtct	900
gtgagaattg ccagcttagt tttgaagagt ttttaagac taatcgagtt ggatgtccgg	960
agtgttatct ggcttttgag gcacagttag taccgattat tggtcgagtg caaaatggat	1020
ataaaaaaca tatttggaag gttccagcag aagttgaacg agcggaaagg gtacaaaatg	1080
aaattagtcg tttacaagaa aagttagcaa agctagttaa aaatgaggag tttgaggaag	1140
ctgctgttgt ccgtgatgaa atcaaggctt tgaaagctgg aggtgaggat aaatgaatgt	1200
atttgaaaccg cggcttagt cttggttaga aaatgctggg gatgacgatg atgtcgtttt	1260
aagctcacgt attagccttg ctaggaattt gaaggatgaa cagtttccga tttatgagca	1320
gaaggaagag attgtcgata atattgccga agtttttgat gataatttta ttttgattaa	1380
aatgaatcaa atttctttgt tacaaaaggc tcttttggtg gaaaaacatt taattagtcc	1440

ttatatgatg aataagagtg aatatggtgc ggttccttta aatgaggaag aaaatgtgag	1500
tattatggtg aatgaagaag atcatttgcg gatacagtgt atgacgcctg gcttgagatt	1560
attcgatgcg ttagaggcag cgttgcaaat tgatggttat gtggaagaga agcttagtta	1620
tgcttttgat aaagagtttg gatatttgac gagttgtgtg actaatattg ggactgggat	1680
gcgcgcttct gtgatggtac atttaccggg acttgtaaca acaaaaagga ttaaaagtgt	1740
gattgaagcg attaggagcc taggttttgt ggtaagaggt atatacggag aaggtagcat	1800
gcctgcaagt aatattttcc aggtctcaaa tcaagtaact ctgggcaaaa cggaagcaga	1860
aattgtggaa gatttaactc aagtcatgga acaaattatc atgcaagagc gtgtcgctag	1920
aactacattg aagcaaaaat ttcataattgc acttgaagat agagttttta gatcatatgg	1980
tttattgatg aattgtcgaa ttatttctat gaaagaagct gcggatgcta tttcggatat	2040
acgatttggg gtagaattag gatttttcga gcatatttct cgccaaaaaa tgaatgaatt	2100
ggtactattc tcgcaaccag cttttttgag aagagaagca ggacgagata tggatgaatt	2160
agaagagaaa gtaatacggg ccaaagtgat tcgcgagatt ttgggcgata aatgatgagg	2220
cttacgataa ggaggaaaca acaatgatgt ttggacgatt tacgcaaaga gctcagaaag	2280
tactcgcggt gtcacaagaa gaggcgatgc gtttgaatca tagtaattta ggaacagaac	2340
atattttatt agggcttgta agagaaggcg aaggaattgc ggcgaaagct ctctatgaac	2400
tgggaattag ttctgaaaaa gtgcagcaag aggtagaggg attaattggg catggggaaa	2460
aagctgtgac gacgatccaa tatacacctc gtgcgaaaaa agtaattgaa ctttccatgg	2520
atgaggctcg taaattaggc catacttacg ttgggacaga acatatctta cttgggctta	2580
ttcgtgaagg cgaaggagtt gcggcacgcg ttttaagtaa tcttgggtatt agtttgaata	2640
aagctcggca gcaagttcta cagctcttag gcggcgggtga tgctactggg gcggggagac	2700
aaacaaatac gcaagctaca ccgactttag atagtgtgac acgtgactta acggttattg	2760
ctcgggaaga taatttggtat ccggttattg gtcgttctaa agaaatccaa cgtgtgattg	2820
aagtacttag tcgccggacg aaaaataacc cgggtactcat tggggaacct ggtgtcggta	2880
aaacagcgat tgetgaaggc ttagcgcaac aaattgttcg taatgaagta cctgagacct	2940
tacgtggaaa acgtgtaatg acattggata tgggaactgt tgtggcaggt acaaaatata	3000
gtggtgaatt cgaagaccgt ttgaagaaag taatggatga aattcgccaa gctggtaatg	3060
ttattctatt tattgatgag ttgcatactt taattgggtc tgggtggggc gaagggtcga	3120
ttgatgcac gaatatcttg aagccacctc tagctcgtgg agagttgcaa tgtattgggg	3180
caacaacgct ggacgagtac cgtaaatata ttgaaaaaga tcgtgcgctt gagagacggt	3240

tccaaccgat	taaagtagac	gaaccaactg	tagaagaatc	tattcaaatt	ttacatggat	3300
tgcgtgatcg	ttatgaagcg	catcaccgag	ttgcaattac	ggatgaagca	cttgaggccg	3360
ctgttcgttt	atctgatcgc	tatatttcag	accgtttctt	acctgataaa	gcgattgatg	3420
ttatcgatga	atctggttct	aaagtacgtt	tgaaatcttt	tacaacgcca	aaaaatgtaa	3480
aagaaatgga	aaataattta	tccgatttga	aaaaagaaaa	agatgcggtc	gttcaaggtc	3540
aagaatttga	aaaagcagcg	tcattacgtg	ataaagaaca	aaaactcaaa	aaatcattag	3600
acaaaaaatc	attagaagaa	actaaagcga	attggcaaga	aaaacaaggg	cttgaccata	3660
gtgaagtaac	agaagatatt	gtcgctgaag	tggttgctag	ttggactggg	attccagttg	3720
cgaaacttgc	ggaaacagag	acaataaac	tgtaaataat	ggaaaaactt	ttacatgaac	3780
gtgtgattgg	acaagatgca	gcggttaaag	ctgtatcgct	agctgtacgt	cgagctcgtg	3840
caggccttaa	agatccgaaa	cgtcggattg	gttcctttat	tttccttgga	cctactggtg	3900
ttgggaaaac	agaacttgcg	cgtcgacttg	ctgagtcgat	gtttggcgat	gaggattcga	3960
tgattcggat	tgatatgtct	gagtacatgg	agaaattttc	aactgctcgt	ttagttgggg	4020
ctcctccagg	ttatgtagga	tacgaagaag	gtggacagct	gacagaaaaa	gttcggcaaa	4080
aaccttattc	agtagtcctt	ttagatgaaa	ttgaaaaagc	acatccggat	gtatttaata	4140
tgttgctaca	agtactggat	gatggacgtt	tgactgattc	taaagggcga	gtagttgatt	4200
ttagaaatac	agttatcatt	atgacttcca	atattggagc	tcaagaaatg	aaacaagata	4260
aatcaatggg	ctttaatggt	actgatccac	ttaaagacca	taaagcgatg	gagcaccgcg	4320
ttttacaaga	tttaaacag	gcgttccgac	cagaatttat	caaccgaatt	gatgaaacaa	4380
ttgtattcca	ttcgctgcaa	gaaaaagaat	tgaaacaaat	tgttacttta	ctaactgctc	4440
aattaacaaa	acgcttagcc	gaacgcgata	ttcacgtgaa	attaactgaa	ggcgcaaat	4500
ccaaaatcgc	taaagatggc	tacgatccag	agtacggagc	tcgtccttta	aaacgggcta	4560
ttcaaaaaga	agtggaagac	atgctttctg	aagaattgct	tcgtggtaac	attaaagtag	4620
gcgattacgt	tgaaattggt	gtgaaagatg	gcaagttaga	ggttagaaaa	aaagatgctc	4680
ctaaaaagaa	aacaacctct	aaaaagtaa	aagctaaata	agtagaaagc	cttccttaat	4740
aaaaagttaa	gggaggtttt	ttatgaaaaa	tcatgattcg	cgtcaaaaaa	acgaatttga	4800
tgaaaagggt	taacgcgaac	agatgatctg	tggtaaaaatg	gagcatatgt	atggagggat	4860
gtataaatgg	ctaaagcaaa	aaggacaacc	aaatttggtg	gtcaggcatg	tggtatatgaa	4920
tcggcaaaat	ggatgggaaa	atgtccgaat	tgcaacgagt	ggaatcagat	ggtagaagcc	4980
ttagaaccgt	caaaaaaatc	acgtcagct	ttcaatcata	caggagagcc	ttcaaaagcg	5040
actccaatta	ctcaaatagc	aagtgaacaa	gaaaaacgag	ttgaaacaaa	tatgcccagag	5100

ttaaatagag	ttcttggtgg	cggtgtggtt	cctgggtcta	tggtacttgt	cggaggagac	5160
cctggtattg	gtaaataaac	attgttatta	caagtatcag	cgcaactcac	acttacaaat	5220
aaaaaagtat	tgtatatctc	gggagaagaa	tcaatcaaac	aaacgaagct	acgggcagaa	5280
cgcttgcaag	tttcgggaga	taatttatat	gtgtatgcag	aaacaaatth	agaagcagtt	5340
caagaaacga	ttgattttgt	aaaacctgat	ttgttagtca	ttgactctat	tcagactggt	5400
tatcatcctg	atgttacaag	tgccgcaggg	agtgtttctc	aagttaggga	atgtacagca	5460
acattgatgc	gaattgctaa	aatgcaaaac	atcgctatct	ttattgttgg	gcattgtaact	5520
aaggaaggtg	ctattgcggg	accgcgccta	ttagaacata	tggttgatac	tgtactctat	5580
tttgaagggg	agcgtcacca	tgcttaccgg	atthtgctg	cagtgaaaaa	ccgttttggt	5640
tccactaacg	aaatgggtat	atthgaaatg	cgagatgtag	gacttgthga	agthgctaath	5700
ccttcggagg	tattcttgga	agaacgtctt	gaaggcgctt	caggctcaac	ggthgtagct	5760
ctatggaaga	actcgccccg	tccttggtga	aatacaagcg	cttgthtcgc	caacattgth	5820
ggtaattgcta	agcgaatggc	gacgggaata	gactacaaca	aagthtcgct	aattattggct	5880
gtthtagaaa	agcgaagtagg	thtaattgth	caaaaccaag	atgctthatt	gaaagcggcg	5940
ggcggggthta	aattggatga	gcctgcagtg	gatttggcgg	thgcagtcag	tgthgcatct	6000
agthtatcgtg	ataaaccaac	aagaagtacg	gactgctthta	thggggaact	tggaacttaca	6060
ggtgaaattc	gtagtgtagc	aagaattgaa	caacgcgtac	aagaagcagc	aaaacttggc	6120
thtaagcgaa	thctatttcc	taaaaataac	gaaggtaatt	ggaaaatacc	gaaagacgtg	6180
caagtggthg	gggtggaaac	gattggagaa	gctthaccag	atthaaaaata	aatacttcgt	6240
tgattccgtg	agtactatth	gcggtatagt	ctthtaatag	tgtagaatag	tgctatatgt	6300
atatttgthta	atagcccaat	tatacatata	aattthaaaa	tggaaggag	gaaactaaat	6360
gcttacatgg	gtaattcgag	tgtgtththth	aattctaggt	gggacaacgg	gagthctthth	6420
actacctgct	ctatgggtaa	aacttggaat	aggtcacatt	ctgctaatta	ataatccthta	6480
tactgatgct	ctgattgthg	cacttatatt	thtctthatt	actthctggg	cggtgaaata	6540
tgtagaagcc	gcactthaatt	ggttagagga	aaagthtagct	aaaattgcta	thgcaaccct	6600
tgthtatggg	ggacttgtht	tatttgtagg	thtggtcatt	gcgtththth	cgagcaatgc	6660
atthagtcaa	acaaatattc	gcctththaa	thcagtagta	ccagthattth	taacattagth	6720
thtaggthtat	thagggttcc	gtatcggaat	tagtcgtcgt	aacgaattthg	ggaattthgt	6780
caataacaga	aatgcaaaga	aaagaacacc	agaagaagag	aaaacagaag	agaaatctaa	6840
gaaaacatat	aaaattthgg	atacgagcgt	aattattgat	ggtcgtattg	cagacattth	6900

gactactgga ttttttagatg gaacggtggt tattccacta tttgtactag ccgaacttca	6960
gcataattgcg gattcatctg atacgcttaa acgtacaaga gggcgccggg gattagatat	7020
tttaaatcga atccaaaagg aagatgccat tcaagtggaa atgtatgaag gtgattttga	7080
agatacgcca gaagtggata gtaaaactggt aaaacttgct aaagtaatgg gcggtatagt	7140
tgttacaaat gattataatt taaacaaagt atgtgagttt caaaatgtac cggtttttaa	7200
tattaatgat ttagcgaatg ctgtaaaacc tggtgttttg ccagggtgaga aaatgactgt	7260
tcttatggtg aaagatggta aagaacacaa tcaaggagtt gcatatttag atgatggaac	7320
gatgattggt gtagaagatg gtcgtaaatt tattaatgaa acaatccaag tcgaagtaac	7380
gagtgtactt caaacatcag caggaagaat gatttttgct aagccatcct gattagaagg	7440
gggaaatgag catgaattat gagttggttt ttttagcggc aggtcaaggg aagcggatga	7500
atgcccagaa aaacaaaatg tgg	7523

<210> 46
 <211> 54
 <212> DNA
 <213> Mus musculus

<400> 46	
ctctgtgccg gcaggagctg ggggagctcc tatgaacagt acttcggtcc cggc	54

<210> 47
 <211> 2912
 <212> DNA
 <213> Arabidopsis thaliana

<400> 47	
ccattatcca tctgtttttt ttttcatctc tctctctctc ttttcttctt cgattcgtgt	60
tttctccatt tcattctctg ttacgcttca atcgaactcg gaagtcattg ctatggccac	120
aagggtgttg gctcaatcga ctccaccgtc tttagcttgt taccagagga atgttccttc	180
acgtggatct ggaagatcga gaagatcggg gaaaatgatg tgtatcattt ttaatgtctg	240
gttaccaatg caagggttta tgggattacg tggtacaat gctttagaca ctcttgga	300
aagtcgtcaa gattttcatt cgaagggtgc acaggcaatg aatgtgccca aggggaaagc	360
tagccggttt acggtgaaag caatgtttga aagatttacg gagaaagcta tcaaagtat	420
tatgcttgct caggaggaag ctagaagact aggccacaat tttgtgggaa ccgaacaaat	480
tcttcttggt cttattggtg agggtaactg aatcgtgct aaagtgttga aatccatggg	540
gattaactta aaagatgcac gtgtggaggc tgaaaaaatt attggaaggg gaagtggctt	600
tgttgctgtt gaaatcccat tcaactcctg tgccaagcgt gttcttgaac tctctcttga	660
ggcaactcgc caacttggtc acaattacat tggatccgag caccttttgc ttgggtgtgt	720

acgtgaaggt gaaggagttg cagctcgagt ccttgaaaat ttaggtgcag atcctagtaa	780
tattcgcact caggtgatac gcatggtggg tgaaaacaat gaagtaactg ctaatgttgg	840
gggaggaagc agcagcaata agatgccaac tcttgaagag tacggaacaa acttgacgaa	900
actggtctgag gagggtaaat tggaccagtg tgttggaagg cagccgcaga tagaacgtgt	960
ggtgcaaatt cttggcagga gaaccaagaa caacccttgt cttattggag aacctggtgt	1020
tggtaaagaca gctattgctg aaggacttgc acagcgtatt gccagtggcg atgtccctga	1080
aactattgaa gggagaaggg ttataacact cgacatgggt cttctagtgt ctggaacaaa	1140
atatcgtgga gagtttgaag agagattgaa aaagcttatg gaggaatta gacagagcga	1200
tgagataatc ttatttatcg acgaagtgca tactttgatt ggggctggag cagcagaagg	1260
tgcaattgac gcagctaaca ttttaaaacc agctctcgct agaggtgaat tgcagtgcac	1320
tgagcgcaca acattagatg aataccgaaa gcacattgag aaagaccctg ccttggaag	1380
aagattccag ccagtgaag tacctgaacc taccgtggat gaaactattc agatccttaa	1440
gggtctgcga gagcgatag aaattcacca caagcttcgt tacacagacg aatctttagt	1500
agcagctgca cagttgtcat accagtatat aagtgatcgt ttccttctcg acaaggcaat	1560
tgacttgatt gatgaagctg gttctcgggt tcgacttcgt catgcacagg tccctgagga	1620
agttagggag cttgagaagg agcttaggca gataacaaag gagaagaatg aagctgtccg	1680
tggccaggac tttgagaagg ctgggacact tcgggataga gaaattgaac tcagagctga	1740
ggtatctgca atccaagcga aaggcaagga gatgagcaaa gcagagagtg agaccggtga	1800
ggaaggccct atgggtcacgg agtcagacat ccaacacatt gtgtcttcat ggactggtat	1860
tcctgttgag aaagtatcaa ccgatgagtc tgaccgtctc ctcaagatgg aagaaacct	1920
ccacaaacgt atcataggcc aagacgaagc tgtgaaagcc ataagccgag ccattcgccg	1980
tgacagtggt ggactcaaga atcctaaccg tccaatcgct agtttcatat tctcgggtcc	2040
aaccggtgtt gggaaatctg agcttgccaa agcttttagca gcttactact tcggttccga	2100
agaagccatg attcgttttag atatgagtga gttcatggag aggcacactg tctccacact	2160
catcggttca ctctctggat atgtcggata caccgaagga ggtcagttaa cagaagcgg	2220
tagacgtcgc ccttacaccg tcgttttatt cgatgagatt gaaaaagccc atccagatgt	2280
tttcaacatg atgcttcaaa tccttgaaga tggttagatta acagacagca aaggaagaac	2340
agttgacttc aaaaacacac ttctcatcat gacatcaaac gtcggaagca gcgtgattga	2400
gaaaggagga agacgtatcg gattcgactt agactacgac gagaaagaca gcagttacaa	2460
cagaatcaag agccttgtaa cagaggagct gaaacaatat ttcagacccg agttcctaaa	2520

caggctagac gagatgattg tgttcagaca gctaacaaag ctggaagtga aagaaattgc	2580
tgacatactg ttgaaggaag tgttcgagag gttgaagaag aaagagattg agcttcaggt	2640
gaccgaaaga ttcaaagaga gagtagtaga cgaaggttat aacccgagct atggagcaag	2700
accggtgaga agagccatca tgaggctttt agaggatagt atggcagaga agatgcttgc	2760
gagagagatc aaagaaggag actcggtgat tgtggacgtt gacgtgaag gtaacgtcac	2820
ggtgctaaat ggtggaagtg gcactccaac tacttccttg gaggagcagg aagattctct	2880
ccctgttgct taaataaaaa aagcaaagtg cg	2912

<210> 48
 <211> 7726
 <212> DNA
 <213> *Leishmania donovani*

<400> 48	
gctctcgcga accacacatc tcgctacgcg agttcactga atgcgatggc caacgtttac	60
acacacggcg cgtgcccttt gcggtgccgc cagccctaac atgggcgaga tcgtgtcggc	120
gagcagcacc aacagcgagg aggacacccg caacgcggcg acggccgggg aggaggacta	180
acaacctgca cggttgacct tcgcttctc gcaacgagag gcgtcggagg gataccgacg	240
gtgcgtcgag ttgaacagaa ggaagacacc ataaaggagc gaggaggggtg tgtggcgggg	300
ggactcgtcg ttggagtctt agctatcctt ctcgttttat cgaccaactg tcgtcgtctt	360
catggcgtgc gttgctgtgc gaggtttgga actcttcgtt cacgctatgc ttttgatcc	420
tctgccgctt tcctttcccc accgcagggtg cacgtgcctc ttgccttttt ttgtcgcgta	480
gcactttccc caccagagtg tcgtggagga catgctcgtc acatgcactc ggtgccatcg	540
gccgaccaag cgaagaaacg taaccaacag accgcaggaa gacgtcgaaa acgaaagcaa	600
aagaggtggg cgtgcgtgac agaggcaaaag gaacatcttg cgcacacgcc gggcggtctt	660
gcttcaacag gcgctactcc gtctcctttc tctgcggcag ggaattttcg cagtctctca	720
gatgatgaac ttgcgccttg cctttctcaa gggagcgtgc ctcgacgact ttacgaggcg	780
gagggggagg aaaaggaagc gcttgctctc ctcgcgtcat tccccctga cggtcggcgt	840
agttctttca cgataacggg catgacgcgc tgaccccgac accacttcta ccctcctctc	900
atctctttct ctctcgaca tctccatcgc tctcacttgc aatgcccctt ctctcctctt	960
tctccaacca tccttgtttt ttacgcaca tgttccccac cacatgcaca cgtgcaaact	1020
acacgcataa catcttgac attaacccac acctgcaggc taaaaacat atcacgtctt	1080
ctatctctct atttccccct cccccgtatt attacagtcg cgagacatca aaaaacaagc	1140
aaacaacacg agcgtattga agcccgcgt gttgttggtt gttggcttta ttgttggtgt	1200

gtgctttctta cctcttccgt cgcttcccg	cccctcttcc tctcttcgtc acgtcggctt	1260
cttcacttcc gctgtttttt tttttccgtg	tttgtcttct ctgtgtgtgc tctcttttta	1320
actttttgga tattactact gccgggtcgt	aactcgtttc actcgcgctc gttgtccttc	1380
gctgcaccgt gtgctgccgg ggcttggtgc	cggattttta ctttctcgac tcccccttct	1440
ctctctatcc tcgtgtcatt tcgtgtgctg	tcgtctcgct tcgcttttgg cegtccactc	1500
gcgagtcgtg cagtgaaca gagcgacagg	acgacgtacg ggggaaaaa ggagggccga	1560
aacacggaga gtcagcccac tactccgccc	ggtgcacctg ccgcgcgcg cccctcctgg	1620
ttctccgctt ctccaccat tagactttgg	cgacgaaacg agtgcggtta agccccaccg	1680
acgcgaagac gatttgaaag ggcacctgcg	ctgcccacg ctgttttatt gctcgtgtga	1740
gtactatcaa ttccaatcgt tgctgttgct	ttcgctgagc gttttcggta cgcgcgtctt	1800
ctctgtctct ccattggcca gtcggctaac	aggcgtaaa cggaagcgca aaaaaccaac	1860
aaaccaatac ataccaccac cacaacggga	aagacagatc cagcaccaca tcatacaagg	1920
acatccagag agacgcgcag tatcccgctc	cctttcttta tctcgtccat ttcgtcgttc	1980
cgggtgccct tccctcgac gtgccgcctt	taagctcttt atgcgcttcc tttttcttc	2040
tttctttcct ttttcgctg cgtgaagtgg	cctgcctcgc ttgtctgccg tggacgtgct	2100
tgctcgttga gtttttgccg cctcatcgag	catccaaaga gggaaaagaa caaacacagac	2160
acagctgggc atccacgcgt acccagagac	gcaccagcgg cgaacagaaa acaagctcgc	2220
tcatctcttc ctctttctgt gtacatgtga	gaagcggtaa ataacacggg caaacacgcg	2280
aaacggagga cccacgcgtt gccggttctt	gtaaagagga tacaagtctt actttctctc	2340
ctctctggca cacacacaca cacaccgtct	ccgaccacc tttgttttta ttctgcatcc	2400
ttcccttgaa ctctccgta tcccccttc	tctctttctg tagtcatgac gacacagcag	2460
ccagaatgga cgcaggcggc gtcggacttg	atggctcgca ccgcggcatt ggcacgcaag	2520
aaggcaaacg gctacctga ccccgtcac	ctcgcttacg tcattgttga agatgaaaac	2580
agtcttgctt ctcgtgtcgt gcgcaagctc	ggggccgcct cagtgaagga tggactggag	2640
gcgcgtgttg acgcgattcc cagcagatg	cctgcgcca cgcagccgcg gcccaactcg	2700
gacatgatgc gtgtaatga cacggcggag	caggagcgtg ttgccctcgg tgacaccctc	2760
atggccgctg accactttct cctggccctg	cacgagagca aggaggttgg cagaatcctg	2820
gatgctgcag gggctggcaa gaaggcgatt	cgcgccacac tgctcgagat gcgcaagggg	2880
aaaaagataa actccgactt ccaagacgac	aactacgagt cgctgaacaa gtacgcagtt	2940
gatctctgca agcaggcgga ggacggaaa	ctggacccgg ttatttggctg cgcagacgag	3000
attctgcgca ctatccgtgt gctgtcacgt	cgcaccaaga acaaccgggt gctgatcggg	3060

gagcctggag tgggtaagac cgcgattgtg gaaggcattg cgcagcaggt ggtgcgaggc	3120
gacgtgccgg acactctctc aggtattcgc atcttctcac tggacatggg cgcgctgac	3180
gccggcgcca agtaccgcgg cgagttcgag gagcgctga aggccgtgct gaatgaggtg	3240
aaggaaagcg acaataagat catcctcttc attgacgaga tccacctcgt gctcggcgcc	3300
ggcaagtccg acggcgcgat ggacgccgg aatctgctga agccgctgct ggcccgtggc	3360
gagctgcgca cgatcgggtg cacgacgctc gaggagtacc gccagtacgt ggagaaggac	3420
gccgccttcg agcgccgctt catgccagtg caggtgaatg agccatctgt cgaggagtgt	3480
acgagcatcc tgcgtggtct gaaagaccgc tacgagcagc accacggtgt gcagatcacg	3540
gacaaggccg ttgtgggtgc ggcgagttg gctggccgct acattacgaa ccgctttctg	3600
ccggataagg ctattgacct tattgatgaa gcgtgcgcca acgtgcgcgt gacgttgctg	3660
tcgcggccgg ccgaaatcga cgccctcgag cgcaagaagc gccagctgga gatcgaggag	3720
aaggcgctgc agcgcgacaa ggacgcacg gccaaaggag ggctgaaagc cgtgaaggcg	3780
gagattcaga agtgggagga gaagcttggc ccacttcttg ccaagtacga gcaagagcgt	3840
ggccgtatcg acgagctgca ggcaacgcag gcaaagctgg acgagaagaa ggtgaagcta	3900
gagcggggcg agcggatcgc tgacatggag acggcagcag atcttaaata caatgtcatc	3960
ccgatcctcc aggacaggat ccgatccctc aaggaggaga tcgagaagca gaaggcgacg	4020
atgctgcatg gcaccgtgac tgagacggac atcgccaccg ttgtgtcgcg ctggaccaat	4080
atcccgggtg caaagctgag ccagaccgaa cgcgagcgcc tgctgcacct ggccgaccaa	4140
ctgcacctcc gtgtgaaggg ccaggatgag gcggtgagcc gtgtcgcgga ggctattctg	4200
cgctcacgtg cgggcctggc ccgctcggac cggcccaccg gctctttcct gtttctcggc	4260
cccaccggcg tgggcaagac agagctgtcc aaggccgtcg cctcaaagct cttcgacgat	4320
gccaaagtaca tggtgcgact ggacatgagc gagtacatgg agcagcactc tgtggcgcg	4380
ctgatcgggc ccccgccggg gtacgtcggc cacgaagaag gtggccagct gacggagccg	4440
gtgcgcgctc gccatacac ggtggtgctg ctggatgagg tggagaaggc gcaccggaac	4500
gtcttcaacg tactgctgca ggtgcttgat gacgggcggt tgactgactc gcacggccga	4560
accgtgaatt tctgtacac gatcatcatc atgacatcca acttggggtg gcagtatctg	4620
cagaacatgg acacctcacc gaaggcctac gaagtggcac agacacaggt gatgggcgag	4680
gtgaggaagt tctttcgccc ggagttcatc aaccgactgg atgacatcat cctcttccgc	4740
tctctgggct taaaggagat gaccggcatc atcgacctca tcaccgagga gctctatggc	4800
cgtctcaagg accagtccat ccgggtttcc ctcacagaag aggctaagaa ctacgtattg	4860

gagtcgcgct tcgacgcgga tatgggcgct cgcccactac ggcgctgggt tgagaagaac	4920
atcacaacag agctcagccg catgatcctc tcgcaagagc tgtcgccgaa cagcacgggtg	4980
aaagtgaact tcagcagcaa tcataaaaaag ctctccttct cggatgaagcg gacggcagcg	5040
cagacatgaa tcgcgggcggc ggttgcggac tcggacagcg ctgatgctga gaacggcgcc	5100
gaaagccggt ccgcttcgcg caatggacat ggagaggcaa agcgaaggcg agctgagtag	5160
cggcaggcat gaccggtgcc gccgcgcgcg gtgttttttt tttcgttcg tggtagtag	5220
taccagcggt tcagctctct gtcctctctg cctcagaaca gtacagcgct accagcggtt	5280
cagctctctg ctccctctgc ctcaaacag tacagcgccc tacctgcctg cgctgacgag	5340
gtttctgctt ctgcagttct tgtccgccta tgcgcgcgtt ggcgtttctc tgcacatcgc	5400
gtctgttgag cttcttttca ttgtctgcgc gtgcgcgttg tgtgcgcctc ttcattggccc	5460
gtccgtgacg gcgtatcttt ttgttgact tcgttattct tgggtgtgtg ggtgtggagt	5520
gtccttccct gccctccatg gccgccaaact cccttctctc tctccctctc gctttccac	5580
tcgtcttctc agtctgcttc tttctgtgct ctggttctct ctctttcttg aggcctctct	5640
catggaagcg catctgagag tgagtatgtg tgggcaggcg atccactcct ctttttgct	5700
gcatgctgga gagaggagag gcgtgagga tggcgcgccc ctgcagaggc aaccaactca	5760
aaacgcgga aaatcgaagc gagaacaaca aagccgaaaa cacgtacaca cacacacaca	5820
cacctataaa tgcgacgcga atgcgcgttg cggcgggcgc cgctgtcctc ttaccagcg	5880
gtccatcctg tgcatactcg acgcaccttt tcctttgttt tcccgccctc ctggtcagat	5940
gtgcgcgtgt gcgtgcatgt ctgggtgtgc gtctgggatg gtgcatccgt tttgtaaact	6000
ctgctgaccg ccggagaaga ggtgggcgtg cgtgcgcagg ctccgggaag gtgcggcgct	6060
gctgctctcg tggatgcgga tgtttctttc tttttctgtg ccgttttgat gttgttgcta	6120
tttctcccc tcccccata cccacttctc cagatttggt gtgaccttct gtttatgttg	6180
ttttgtgat gcggctcctc agcagtggcg caccggccatg ctgtggcgca ttgctggtgc	6240
gccgcacctt ttcggccttg ccactttttg tcttccctct tggatctctt gccatgatga	6300
caacgagggg agggaggggg ggccttgccct cagcgcatgg tatcgtgggg tgccgtactc	6360
ccacgttctg cggggaggct aagcaagccc cctccctcct atcccttgcc gaatgccgat	6420
ccgcctctgg tgttgacaag atcaagggcc atgcatcatg gagaggtag agcgatgtgc	6480
cgctactgac gtgcggcgcc aggtcgtgga tggcgctgcg tcggtgcaac ctgcggcagt	6540
ggaccgactt gtgccgctta taggattgcc agagtggagt tcaagccttg tattgtgcca	6600
gaatcggcac actgacaaga gacaacaaca aaaaaaaaaa acaagctttc aatgtgcgat	6660
atttaagctt gctgtgacag cgccgtcgtg cgagagggcc gtacagccac tagcgctttt	6720

ctttggtgtg tcccactctt ctgttctcat ggagagacgt ttcgtaattc cccccttcta 6780
 cctgcctctg tgaggagac tgcttcataat tgtagtggtc ggtcatgacg acgcattctg 6840
 cgcactggtg tcttccatcc gccctcaacc ctgccatctt ctttactttt cgctgagcct 6900
 ttacctatcc ctttttgttt tcctcccacc cccaacgcta taaagccgac tttctccctc 6960
 ttcttttctg gtgtatttgg gcccttgcca ggcgctctt catgtgtggc gcttatgatc 7020
 atgcggtatg acagcagcga cggagtgggg ctgctgatg gtgcgcgaga gctcgacgac 7080
 gatgatgagt accgacacat acctaccctc ccgtctgtca cgcacagata cgcgtaggcg 7140
 tgcaacaaa ccaagaccaa agaacgaggt gagagcgtca agagaaaagg cggaggccgg 7200
 aatagccaag gcccccttca tcgacgcata tgttactttc ggtgtaatgc ggtcccgcga 7260
 gagcactccg ccgctgctgc aggcgcgagc gatcgctgca tacacacaat cgcattgtgc 7320
 gctctgggtg ctccatgac ctttgcgtgc gttggtaac cactgcgtgc cgctcttgcg 7380
 ctgccatgat accacctctc tctcctcact tcctttcttc caagctgctt attactggcc 7440
 tttgcgttcg tctctatcaa ctccccctt tctacccttc cgttgccaccg tccgctgcat 7500
 cgcgccggag tagcggctac cagtgggtg gagcacatag agagaggctt atacctcagt 7560
 gaccatcacc cctgcccgcg tcacgcagac acgcgaccgc ttccgcccctc gagcaggacg 7620
 ctgggcgcgg ctctcttgga tcaaggcatg cagtcacccc atgtgcgtgt gtcgccgatg 7680
 gcgcggcatg cgtgcgagga agggacgagc aagggcagga ggatcc 7726

<210> 49
 <211> 5997
 <212> DNA
 <213> Leishmania major

<400> 49
 ggatcctatg ccgcgttctt tctcccccg caggtgaacg tgctctctgc cttttttttt 60
 ggctgcgtaa cactctctc acccgagtgt cgtggggggg ggggggacat gcttgctatg 120
 cactcgggtg cgctggctga ccaaacgaac aaacgtaacc aacagatcac aggaaaacgt 180
 gaaaacaaa gcgaaagggg tcggcgcgcg tgacaggggc aacggagcat gtgcgcacac 240
 gccgcgcggc tctgctttaa caggcgctac tccgtctctt ttctctcgcg caggggaatca 300
 tcgcagcttc gatgatgaac tcgcccttg cctctctcaa gggaaacgtg ctcgacgact 360
 gtacgaggcg gagggggaag ggaaggaagc gcttgctctc ctgcgctcat ttctccttga 420
 cggtcggcgt aggtctcttc gcgataacgg gcatgacgcg gtgacccag aaccattctt 480
 accctcctcc catcgctgct tttctctctg cggcgtctct gtcgctatca cttgcaatgc 540
 cccttctctt cctcctcttc tgcaaacatc ctctttctt cacgcacatg tccccaccg 600

catgcacgcg tgcaaaccac acagatacat cttgcataacc gaccctcacc tacaggctcc	660
aaaacatatc gcgctctcta tctctctatc tccctccacc tgtattttatt acagtcacga	720
gacattcgaa aaaagcaaac gaacaaaaaa tataaatatc acgagcggat tgaaacccgc	780
gttggtgctg gttgttgact gtattgttgc tgtgtgcttc ttaccttttc cgtecccttc	840
cgccccctct tectctcttc gtcacgtcgg cttcttctact tccgctgtct tcattttttc	900
ttttgtaact tcgtgcttgt cttctctctc tctctgtgcg tgtgtgtgtg tgtgctctct	960
tttttcattt ttgaatatta ctactgccgg gtcacacgc gtatcactcg ccgccattgt	1020
tcttcgctac accgtgtgtg ctaccggggc tttgtgccgg atttttttac tttctcgacc	1080
ccccccccc acccctcccc ctctctccct ctttctatat cctcgcgta tttcgtgtgc	1140
cgtaatcccg cgtcgccctc tctcgggcgg tcgagtcgtg agttgtgcag agaaacagag	1200
cgacgggacg acgtacggga aataaggaga gccgaaacac gaagagtcag ccgattactc	1260
tgcgcggtgc acctgccgcg ccgcgcccc cctgcttctc cgcttctcac cacattagac	1320
tttggcgacg aaacgagtgc ggtaagtcc caccgacgca aaagcgattt gaaagggcac	1380
tgacactgcc cagcgcctca ttgctattgt tccgtgtgaa tcttttcaat tccaaccgtt	1440
gttggttttcg ctgagcgttt tcggtagcgc cgctctctct ctctctctcc attgggccag	1500
tcagcgcgca gacgtacaac ggaagcgcaa acaacaacg acgacgacga ccaccacaa	1560
aacgggaaaa acgattcagt accgcatcat acaaggacat tcaggggagac gcgcagtatc	1620
ccccttcct ctctttatct cgtctatttc ttcgtttcgg tgtecccttc cttgcacgtg	1680
ccgtctttta agctctctgt gcgttttctt ttgcgtgctt tctttcactt ttcgtttgtg	1740
tgaagtggcc tgcttctttt gtcttctgtg gacgtgtttg cctgctgggt tttgccgcct	1800
catcgagcat ccaaacgagg gaaacgaac aaacagacc agctgggcat ccacgcgtac	1860
ccacacacgc accagcggcg aacaggaaac aagctcgctc atctcttctc tttctctcg	1920
tgtacatgcg agaaaagcgt gaaacaacac gggcaagcac gcgaaacgga gaacccacgc	1980
tttcgtaggt tctgtaacg acgacacaag gcttacgtgt ctctccctct ttctctctgg	2040
cttacacaca cacacacaca tacacatata catacacaca catacacaca ccgtctccag	2100
cccattcttg cttttcgtct gcctcttcc cttgaactct cccgtatcca tccttctctc	2160
tttctgtcat catgcacgc cagcagccag aatggaagca ggcgcgctcg gacttgatgg	2220
ctcgcatggc ggcaactggc cgcaagaagg caaacggcta cctcgacccc gtgcactcgc	2280
cctacgtcat gtttgaagat gaaaacagtc ttgcttcccg tgccgtgcgc aaactcgggtg	2340
ccgcctcagt caaggacgga ctggaggcgc gtgtcgacgc gattcccaac cagatgcctg	2400

cgcccacgca gccgcggccc aactcggaca tgatgcgtgt catgaacacg gcggagcagg	2460
agcgtgctgc cctcgggtgac accctcatgg ccgctgacca ctctctcctg gccctgcacg	2520
agagcaagga ggttggaaga atcctggatg ctgcaggggc tggaaagaag gcgattcgcg	2580
ccacgctgct cgagatgcgc aaggggaaaa agataacctc cgacttccaa gacgacaact	2640
acgagtcgct gaacaagtac gcagttgatc tctgcaagca ggcggaggac ggaaagctgg	2700
acccggttat tggtcgcgca gacgagattc tgcgcactat ccgcgtgctg tcacgccgca	2760
ccaagaacaa cccggtgctt atcggggagc ctggagtggg taagaccgcg attgtggagg	2820
gcattgcgca gcaggtggtg caggcgacg tgccggacac cctctccggt attcgcattc	2880
tctcactgga catgggcgcg ctgatcgccg gtgccaagta ccgcggcgag ttcgaggagc	2940
gcctgaaggc cgtgctgaat gaggtgaagg aaagcgacaa taagatcatt ctctttattg	3000
tcgagatcca cctcgtgctc ggcgccggca agtccgacgg cgcgatggac gccgcgaatc	3060
tgctgaagcc gctgctggcc cgtggcgacg tgcgcacgat cggtgccaca acgctcgagg	3120
agtaccgcca gtacgtggag aaggacgccg ccttcgagcg ccgcttcatg ccagtgcagg	3180
tgcatgagcc gtcagtcgag gagtgcacga gcaccctgcg tggctctgaa gaccgctacg	3240
agcagcacca cgggtgtgcag atcacggaca aggccgttgt cgtggcgggc cagttggctg	3300
gccgctacat tacgaaccgc ttcctgccgg ataaggcgat tgacctcatt gatgaagcgt	3360
gcgccaacgt gcgcgtgacg ctgtcgtcgc ggccggccga aatcgacgcc ctcgagcgca	3420
agaagcgcca gctggagatc gaggagaggg cactgcagcg cgacaaggac gcacgcggca	3480
aggagcggct gaaagccgtg aaggcggaga ttcagaaggt ggaggagaaa cttggccctc	3540
tacttgccaa gtacgaacag gagcgtggcc gtattgacga gctgcaggca acgcaggcaa	3600
agctggacga gaagaaggtg aagctggagc gggcagagcg gatgcgcgac atggagacgg	3660
cagcagacct caaataccgc gtcaccccaa tcctccagga caggatccga tccctcaagg	3720
aggcgatcga gaagcagaag gcgacgatgc tgcagggcac cgtgaccggg acggacatcg	3780
ccaccgttgt gtcgcgctgg accaatatcc cggtgacaaa gctgagccag accgaacgcg	3840
agcgctgtgt gcacctggcc gaccagctgc acctccgtgt gaagggccag gatgaggcgg	3900
tgagccgtgt cgcggaggcc attctgcgct cacgtgccgg cctggcccgt tcggaccggc	3960
ccaccggctc tttcctgttt ctcggtccca ccgcgtggg caagacagag ctatccaagg	4020
ccgttgcttc agagctcttc gacgacgcca agtacatggc gcgacttgac atgagcgagt	4080
acatggagca gcactctgtg gcgcggtga tcggcacccc gccggggtag gtcggccacg	4140
aagaaggtgg ccagctgacg gagccggtgc gccgtcgccc atacacggtg gtgctgctgg	4200
atgaagtgga aaaggcgcac ccgaacgtct tcaacgtact gctgcaggtg ctcgacgacg	4260

ggcggttgac tgactcgac gccgaaccg tggatttctg caacacgatc atcatcatga 4320
 catccaactt ggggtgcgcag tatctgcaga acatggacac ctcaccgaag ccgtacgaag 4380
 tggcacaggc acagggtgatg ggcgaggtaa ggaagttctt tcgcccggag ttcatacaac 4440
 gactggacga catcatcctc ttccgctctc tgggcttaaa ggagatgacc ggcatactcg 4500
 acctcatcac agaggagctc aatggccgcc tcaaggacca gtccatccgg gtctccctca 4560
 ccgaagaggc caagcagtac gtattggagt ccgccttcga cgcggatatg ggcgctcgcc 4620
 cgctacggcg ctgggttgag aagaacatta caacagagct cagccgatg atcatctcgc 4680
 aagagctgtc gccgaacagc acagtaaaag tgactctcag cagcaatcat aaaaagctct 4740
 ctttctcggg gaagcggcgc gcggcgacga catgaatgc agcggcggtt gcggactcgg 4800
 acagcgcgga tgctgagaac ggcgccaga gccggtctgc tcccgcgaat ggacatgaag 4860
 aggcaaagcg aagacgagct gtagtagcgc aggcattggc ggtgccgcgc ccgcctctgt 4920
 ttttttctg ctcggttctgt ggtgagtact accagcggtt cagctctctg ctccctctgc 4980
 ctcagaacag tacagcgctt taccacctg cgctgacgag gtttctgctt ctgcagttcg 5040
 tgactaccta tgcgcgcgtt ggcgttcttc tggccacatc gcgttctgct gagcttcttt 5100
 tccttctcgt tgtatgcacg tcgcgtttgt gttgcgcctc ttcattggcc atccgtgatc 5160
 gcggattttt tcattggcac tgttattatt gagtgtgcgc gtgtggagtg tccttcctg 5220
 cccttcattg ccgccaatc ccttccttc cctctctcta tctccctctc gccttccac 5280
 tcgcctctc ggtccgcttc tttctggtt ctcgttctct ctctttgtt aggcctccct 5340
 catggaagcg cagctgagag tgtgcatgtg tgggcaggcg atccattcct cgtttcgcgt 5400
 gcgtgctgga gagaggagag gccctgggga tggcgcgccc ctgcagaggc aaccaactca 5460
 aaacgcgga acaccgaagc gagaacaaca agggcgaaac atacacacgc acacataaac 5520
 gcgaacacga atgcgcgttg cggcggccgc cgctgtcctc tttccaggc gtccatcctg 5580
 tgcatacttg acacacctt ttcttcgcgt tcccgccctc ctgatgaggt gtgcgcgtat 5640
 gcgtttctgg gatggtgtgc gtccgttctg tactctctg tgaccgcggg agaaaagggtg 5700
 tgcgtgtgca ggcacgga aggtgctgc ctgctgctct cgtggatgcg ggtgttttct 5760
 tccgtttctg tgccttttg atgtgttg tatttctctc cctccccctg acccgctgct 5820
 caagatttgc ggtgacctt tgtttatgct gctactgctg atgcgacgca tcagtggcac 5880
 gcgctcgtgc tgtggcgcat tgctggggcg ccgcgcctt ttgccttg cactgtttgc 5940
 cctccctctt ggatctcttg ccatgatgcc agcgagggga ggagggaag gggggat 5997